THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant(s):	Brian J. Reistad et al.
Appl. No.:	09/054,180
Conf. No.:	2217
Filed:	April 1, 1998
Title:	ELECTRONIC COMMERCE SYSTEM
Art Unit:	3621
Examiner:	Firmin Backer
Docket No.:	0115274-0008

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANTS APPEAL BRIEF

Sir:

Appellants submit this Appeal Brief in support of the Notice of Appeal filed on September 14, 2006. This Appeal is taken from the Final Rejection in the Office Action dated June 14, 2006, and Notice of Panel Decision from Pre-Appeal Brief Review dated November 16, 2006.

I. REAL PARTY IN INTEREST

The real party in interest for the above-identified patent application on Appeal is Soverain Software LLC by virtue of an Assignment dated June 26, 2003 and recorded at reel 015083, frame 0204 in the United States Patent and Trademark Office.

II. RELATED APPEALS AND INTERFERENCES

Appellants' legal representative and the Assignee of the above-identified patent application do not know of any prior or pending appeals, interferences or judicial proceedings which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision with respect to the above-identified Appeal.

III. STATUS OF CLAIMS

Claims 12-36 and 39-63 are pending in the above-identified patent application. Claims 12-36 and 39-63 have been rejected. Claims 12-36 and 39-63 are being appealed in this Brief. A copy of the appealed claims is included in the Claims Appendix.

IV. STATUS OF AMENDMENTS

A Final Office Action was mailed on June 14, 2006. Appellants filed a Notice of Appeal in Response on September 14, 2006. A copy of the Final Office Action is attached as Exhibit A in the Evidence Appendix.

V. SUMMARY OF CLAIMED SUBJECT MATTER

A summary of the invention by way of reference to the drawings and specification for each of the independent claims is provided as follows:

The claimed configuration is generally directed to a client computer (12) being programmed to transmit to a server computer (14), over a public packet-switched network (FIG. 1), an order acceptance request (16) comprising a plurality of terms or conditions of a proposed offer for a purchase (specification page 1, lines 1-27). The order acceptance request comprises a discrete message that includes a plurality of modular elements (page 1, lines 1-17) whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements (page 9, lines 20-29). At least one of the modular elements individually protected by a cryptographic security code is a digital coupon (page 9, lines 29-32)

A server computer processes the order acceptance request (16) (page 5, lines 19-30) based on pre-programmed criteria, including authentication of the cryptographic security codes embedded within each of the modular elements (page 9, lines 6-29) and examination of the modular elements of the discrete message individually protected by the cryptographic security codes (page 5, line 18 - page 6, line 2), and, based on the processing of the order acceptance request (16), to transmit to the client computer an order acceptance response (18) based on the pre-programmed criteria (page 6, lines 3-24). The order acceptance response (18) comprises a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements (page 15, lines 16-25) whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements (page 10, lines 3-8; page 5, line 18 - page 6, line 2; page 21, lines13-16).

Independent claims 12 and 39 recite the above configuration and additionally recite that the client computer is programmed to receive the digital coupon, protected by a cryptographic security code, from another computer (page 9, lines 29-32).

Independent claims 13 and 40 also recite the above configuration and additionally recite that the digital coupon is configured to be used by any coupon holder that possesses the digital coupon, and wherein the server computer is programmed to accept the digital coupon without regard to the identity of the coupon holder (page 19, lines 9-16).

Independent claims 14 and 41 also recites the above configuration and additionally recite that the server computer is programmed to determine whether a coupon holder is authorized to use the digital coupon and to accept the digital coupon only if the coupon holder is authorized to use the digital coupon (page 19, lines 16-29).

Independent claims 34 and 61 recite the above configuration and additionally recite that the cryptographic security codes are embedded within respective ones of the plurality of modular elements (page 9, lines 20-23).

Independent claims 35 and 62 recite the above configuration and additionally recite that the cryptographic security codes are digital signatures (page 9, lines 24-25).

Independent claims 36 and 63 recite the above configuration and additionally recite that the cryptographic security codes are message authentication codes (page 9, lines 24-25).

Dependent claims 15 and 42 recite the above configuration and additionally recite that the client computer is programmed to provide information to the server computer concerning the identity of the coupon holder (page 9, lines 6-20).

Dependent claims 16 and 43 recite the above configuration and additionally recite that the server computer is programmed to authenticate authority of the client computer by virtue of a two-way-authenticated SSL connection (page 9, lines 9-13).

Dependent claims 17 and 44 recite the above configuration and additionally recite that the server computer is programmed to authenticate authority of the client computer using a basic authentication method (page 9, lines 23-26).

Dependent claims 18 and 45 recite the above configuration and additionally recite that the server computer is programmed to authenticate authority of the client computer using a client certificate (page 9, lines 13-14).

Dependent claims 19 and 46 recite the above configuration and additionally recite that the digital coupon contains a serial number to ensure that the digital coupon is used only once and the server computer is programmed to determine whether the digital coupon has been used previously and to accept the digital coupon only if it has not been used previously (page 19, lines 9-21).

Dependent claims 20 and 47 recite the above configuration and additionally recite that the server computer is programmed to set at least one term of the order acceptance response based on whether the digital coupon is present in the order acceptance request (page 17, lines 18-25).

Dependent claims 21 and 48 recite the above configuration and additionally recite that the at least one term of the order acceptance response is a price (page 17, lines 18-25).

Dependent claims 22 and 49 recite the above configuration and additionally recite that the server computer is programmed to set at least one term of the order acceptance response based on whether the digital coupon in the order acceptance request is a particular type of digital coupon (page 16, lines 8-19).

Dependent claims 23 and 50 recite the above configuration and additionally recite that the digital coupon is a gift certificate (page 25, line 30 - page 26, line 12).

Dependent claims 24 and 51 recite the above configuration and additionally recite that the gift certificate comprises a serial number (page 25, line 30 - page 26, line 12).

Dependent claims 25 and 52 recite the above configuration and additionally recite that the server computer is programmed to ensure that the serial number has been used only once by checking a database in which the serial number is stored (page 26, lines 13-21).

Dependent claims 26 and 53 recite the above configuration and additionally recite that the client computer is programmed to display an icon of the gift certificate and to initiate the order acceptance request after a recipient of the gift certificate clicks on the icon (page 7, line 29 - page 8, line 2; page 26, lines 13-17).

Dependent claims 27 and 54 recite the above configuration and additionally recite a merchant computer, the merchant computer (65) being programmed to respond to the recipient clicking on the icon by transmitting an order form to the client computer, the client computer being programmed to initiate the order acceptance request when the recipient fills in the order form (page 26, lines 13-33).

Dependent claims 28 and 55 recite the above configuration and additionally recite that the client computer is a first client computer programmed to receive the gift certificate from a second client computer (page 25, line 30 - page 26, line 12).

Dependent claims 29 and 56 recite the above configuration and additionally recite that the server computer is programmed to transmit the gift certificate to the second client computer, which in turn is programmed to forward the gift certificate to the first client computer (page 25, line 30 - page 26, line 12).

Dependent claims 30 and 57 recite the above configuration and additionally recite that the gift certificate comprises a serial number and the server computer is programmed to create the serial number of the gift certificate before transmitting the gift certificate to the second client computer (page 25, line 30 - page 26, line 12).

Dependent claims 31 and 58 recite the above configuration and additionally recite that the server computer is programmed to store the serial number in a database before transmitting

the gift certificate to the second client computer, and is programmed, when it receives the gift certificate from the first client computer to ensure that the serial number has been used only once by checking the database in which the serial number is stored (page 25, line 30 - page 26, line 12).

Dependent claims 32 and 59 recite the above configuration and additionally recite a merchant computer programmed to transmit the gift certificate to the server computer before the server computer transmits the gift certificate to the second client computer (page 26, lines 4-29).

Dependent claims 33 and 60 recite the above configuration and additionally recite that the merchant computer is programmed to transmit the gift certificate to the server computer in the form of an order acceptance request that includes extension information indicating that the order acceptance request is a gift certificate (page 26, lines 4-29).

Although specification citations are given in accordance with C.F.R. 1.192(c), these reference numerals and citations are merely examples of where support may be found in the specification for the terms used in this section of the Brief. There is no intention to suggest in any way that the terms of the claims are limited to the examples in the specification. As demonstrated by the citations above, the claims are fully supported by the specification as required by law. However, it is improper under the law to read limitations from the specification into the claims. Pointing out specification support for the claim terminology as is done here to comply with rule 1.192(c) does not in any way limit the scope of the claims to those examples from which they find support. Nor does this exercise provide a mechanism for circumventing the law precluding reading limitations into the claims from the specification. In short, the specification citations are not to be construed as claim limitations or in any way used to limit the scope of the claims.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 12-36, and 39-63 were rejected under 35 U.S.C. §102(e) as being clearly anticipated by *Barnett et al.* (US Patent 6,321,208). A copy of the *Barnett* reference is attached hereto as Exhibit B.

VII. ARGUMENT

A. LEGAL STANDARDS

1. Anticipation under 35 U.S.C. § 102

Anticipation is a factual determination that "...requires the presence in a single prior art disclosure of each and every element of a claimed invention." *Lewmar Marine, Inc. v. Barient, Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987). Moreover, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a *single* prior art reference." *Verdegaal Bros. v. Union Oil of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987)(*emphasis added*).

Federal Circuit decisions have repeatedly emphasized the notion that anticipation cannot be found where less than all elements of a claimed invention are set forth in a reference. *See, e.g. Transclean Corp. v. Bridgewood Services, Inc.*, 290 F.3d 1364 (Fed. Cir. 2002). In this regard, a reference disclosing "substantially the same thing" is not enough to anticipate. *Jamesbury Corp. v. Litton Indust. Prod., Inc.*, 756 F.2d 1556, 1560 (Fed. Cir. 1985). A reference must clearly disclose each and every limitation of the claimed invention before anticipation may be found.

Further, anticipation cannot be shown by combining more than one reference to show the elements of the claimed invention. *In re Saunders*, 444 F.2d 599 (C.C.P.A. 1971). All elements of a claimed invention must be disclosed in one, solitary reference. As such, it is clear that a reference cannot be utilized to render a claimed invention anticipated without identical disclosure.

B. THE CLAIMED INVENTION

The invention relates to an electronic commerce system that enables automated negotiation and processing of on-line orders. The system ensures that final orders conform to advanced order acceptability criteria established by the seller, but allows for flexibility in defining the terms and conditions of transactions to satisfy the needs of the buyer.

Client computers, such as those operated by buyers who wish to purchase goods or services from a seller, negotiate with the electronic commerce system to arrive at a set of terms and conditions which are acceptable to both the buyer and the seller. The negotiation is conducted according to a protocol which is driven by the buyer, but where the final terms and conditions must be accepted by the electronic commerce system. Once the negotiation phase is complete, when both the electronic commerce system and the client have agreed on a set of terms and conditions, the client and the electronic commerce system enter into a transaction phase wherein the terms and conditions which were agreed upon during the negotiation phase are "captured", and an order for the desired goods or services is processed according to the agreed upon terms and conditions.

During the negotiation phase the client sends an order acceptance request message to a server associated with the electronic commerce system. The order acceptance request may include data identifying the buyer, the seller, the goods or services the buyer wishes to purchase, terms and conditions of a purchasing transaction, and so forth. The server processes the order acceptance request and generates a corresponding order acceptance response which is sent back to the client. The order acceptance response includes an amended version of the original order acceptance request sent by the client. The order acceptance response identifies which of the original terms and conditions meet the server's order acceptance criteria and which do not. The order acceptance response may also identify additional required terms and conditions that may have been omitted entirely from the original request. The order acceptance response may include alternative choices that may also be acceptable to the server or a menu of proposed replacement terms, or the like.

Upon receiving the order acceptance response, the client may abandon the transaction, incorporate the server's changes into a new order acceptance request or change the order acceptance request in other ways. The client and the server continue this negotiation process until either the client abandons the negotiation or the client and the server arrive at terms and conditions acceptable to the client and which meet the order acceptance criteria of the server.

When the terms and conditions are acceptable to the client the client can enter the transaction phase by indicating client approval to the server. If the order acceptance request is acceptable to the server, the server captures the order acceptance request for the client. Capturing the order acceptance request effectively ends the negotiation between the client and

the server. Backend systems associated with the electronic commerce system then process the order according to the agreed upon terms and conditions and fulfill the order.

Thus, the electronic commerce system enables automatic negotiations between a buyer and a seller, or between a client computer operating on behalf of a buyer and a server computer operating on behalf of a seller, where the server computer includes software that enforces complex order acceptance criteria. The protocol associated with the invention enables the client computer and the server computer to efficiently negotiate toward a complete and acceptable order.

According to an aspect of the invention the order acceptance request message sent from the client to the server is a discrete message that may include a plurality of modular components. The individual integrity of each modular component of the order acceptance request message is protected by a cryptographic security code embedded within the modular component. For example an order acceptance request may include a digital coupon which the client obtained from a third party, or gift certificate, or some other message component such as a free shipping offer or the like, which would impact the transaction.

When the server computer receives an order acceptance request, the server authenticates the cryptographic security codes embedded in the modular components and processes the request in accordance with the authenticated modular components. The order acceptance response message sent from the server to the client may also comprise a discrete message made up at least in part of a plurality of modular components. Again, the individual integrity of each modular component of the order acceptance response message is protected by cryptographic security codes embedded within each modular component.

B. THE REJECTION TO CLAIMS 12-36, 39-63 UNDER 35 U.S.C. §102(e) SHOULD BE REVERSED, BECAUSE THE *BARNETT* REFERENCE FAILS TO DISCLOSE MULTIPLE FEATURES RECITED IN CLAIMS.

Specifically, *Barnett* does not disclose a client computer configured for, or the step of, transmitting an order acceptance request over a packet-switched network that includes a plurality of modular elements, with each modular element individually protected by an embedded cryptographic security code, as recited in claims 12-14, 34-36, 39-41 and 61-63. Also among the

features of the pending claims is a server configured to, or the step of, transmitting an order acceptance response to a client, the order acceptance response also including a plurality of modular elements whose individual integrity is protected by embedding a cryptographic security code within each modular element.

Barnett discloses a method and system for the electronic distribution of product redemption coupons to remote personal computers located at users' homes. A web site stores packages of coupon data for downloading on demand to the user's computer, where the user may view, select, sort and print desired coupons from the downloaded package (see Abstract, col. 4, lines 40-60). The user's demographic as well as coupon selection data is then provided back to the web site and coupon distributor and issuers for subsequent marketing analysis and the distributors/issuers can also determine how many times a particular coupon was viewed or downloaded (col. 5, lines 22-33).

When obtaining coupons under *Barnett*, a remote personal computer 6 is connected to a printer 8, that is instructed by the coupon data management routines 32 stored in the computer 6 in order to print coupons 18. Once printed, the coupons 18 are used in a conventional fashion by a consumer when shopping at a desired retail store 10. In other words, the coupons 18 are physically presented in a paper form to a product checkout station 11 along with the associated products for purchase, and the discount amount shown on the coupon 18 is credited to the consumer at the point of sale (col. 7, lines 6-17). According to *Barnett*, the coupons 18 contain user-specific data in the form of a unique user bar code 90, as shown graphically in FIG. 5. The user bar code 90 is encoded with user-specific information such as the user name and/or other unique identification criteria such as a social security number or online service address (col. 7, lines 21-35).

Thus, *Barnett* teaches a central server that (1) collects information and identification from users accessing the server requesting coupons, (2) encodes user and product information into a barcode, (3) formats the barcode and other text/graphics into the form of a printable coupon, and (4) transmits the printable coupon over the network to the user for subsequent printing and redemption (col. 4, lines 40-60; col. 5, lines 22-33; col. 7, lines 6-17, 21-25).

In the Office Action, and during the Examiner Interview conducted August 31, 2006, it was stated by the Examiner that the process of "encoding" data into a printable barcode format to create a "virtually fraud-proof" coupon was the equivalent of cryptographic encoding. This is

simply incorrect and misstates the teaching of the underlying technology. Bar-coding, such as the type recited in *Barnett*, is premised upon *symbology*, which deals with encoding digits/characters of a message, as well as the start and stop markers, into bars and space. The symbology of the barcode (e.g., UPC code) is merely a machine-readable representation of information in a visual format on the physical surface of a coupon (such as ref. 90 of *Barnett*). There is no encryption or ciphering of the data whatsoever; it is merely converted into a format that can be read quickly and easily by a fixed-light or laser scanner, instead of being manually read by a merchant. The Office Actions have failed to identify what teaching in *Barnett* discloses in the barcode a plurality of modular elements whose individual integrity is protected by embedding a cryptographic security code within each modular element. Under the barcode conversion of Barnett, *all of the coupon information is jointly translated into a singular barcode* (col. 7, lines 22-35).

Furthermore, the references in *Barnett* to the coupon being "virtually fraud-proof" has nothing to do with the integrity of the data being transmitted over the network. Instead, *Barnett* provides and stores unique identity information to each coupon (e.g., user information, expiration date), where the coupon redemption center may control the time (i.e., before an expiration date) or manner (i.e., only one coupon redemption per user) in which the coupon is redeemed based on this identity information (see col. 11, lines 2-23). The "fraud" referred in Barnett deals with instances where (1) photocopies are made of coupons in an effort to obtain multiple redemptions (col. 11, lines 11-23), or (2) someone other than the user (who presumably can't provide identification to the merchant at the time of redemption) is attempting to redeem a prohibited coupon (col. 7, lines 21-34). None of this has anything to do with cryptographic protection and also has no relation whatsoever to transactions being performed over a public packet-switched network.

In contrast to *Barnett*, the present claims rely on *cryptography* in the form of security codes embedded within each of the plurality of modular elements, where at least one of the modular elements individually protected by a cryptographic security code is a digital coupon. As is known in the art, cryptography deals with the secure encoding and authentication of the data itself. Appellants note that each of the above claims recite the "authentication of the cryptographic security codes embedded within each of the modular elements." As described above, the present specification describes, as an example, the use of key authentication, such as

SSL, which contain cryptographic protocols which provide secure communications on the Internet (page 9, lines 6-29; see also page 19, lines 21-28). Under the example of SSL, only the server is authenticated (i.e. its identity is ensured) while the client remains unauthenticated. For mutual authentication, clients must be provided with public key infrastructure (PKI) deployment. The protocols allow client/server applications to communicate in a way designed to prevent eavesdropping, tampering, and message forgery during the transmission and recept of a commercial transaction that occurs over the Internet. Claims 35 and 62 specifically recite the use of digital signatures, and claims 36 and 63 specifically recite the use of message authentication codes.

None of this is either taught or suggested in *Barnett* – as discussed above, *Barnett's* system does not conduct commercial transactions over the Internet using the coupons; the entire disclosure is premised entirely on the user printing and physically redeeming the coupon at a retail store or coupon redemption center through the use of barcode scanning. *Barnett* briefly mentions that coupons may be redeemed "electronically" (see FIG. 9, col. 11, lines 29-42), however, it is clear from the disclosure that the "electronic" redeeming of coupons involves the transmission and storage of the coupon at the retail center, where the retail center prints and scans the coupon on location ("[t]hus, the printable coupon data generation routine ***32d*** combines all this information and generates a record indicative of the unique coupon to be printed"). Cryptographic encoding has no application under the teaching of *Barnett*. Since the coupons are physically printed and scanned, use of PKI certificates would have no bearing on the alleged "fraud proof" nature of the coupons, the entire purpose of such coding would be lost upon subsequent barcoding and printing of the user information.

As *Barnett* does not conduct transactions of the products underlying the printed coupons, *Barnett* also fails to teach or suggest the processing and negotiatiation of electronically authenticated coupons. The present claims recite that the order acceptance request is authenticated and processed to contain a discreet message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements. *Barnett* is completely silent as to how each of the user information is individually protected through the use of barcodes.

Also, claims 12 and 39 recite that the client computer is programmed to receive the digital coupon, protected by a cryptographic security code, "from another computer." During the Examiner interview, it was posited by the examiner that the term "another computer" was broad, and that, using a commensurately and "reasonably" broad interpretation, "another computer" was being interpreted as the "server computer." Appellants respectfully submit that this interpretation is simply wrong and contradicts every convention of claim interpretation. "Another computer" should mean simply that - a computer that is neither the client computer nor the server computer. An exemplary disclosure of this interpretation may be found in the specification on page 9, lines 29-32. *Barnett* clearly does not disclose this configuration, as the entire teaching is premised on providing barcoded coupons from the same central server (see Abstract, col. 4, lines 40-52).

Furthermore, claims 13 and 40 further recite that the authenticated coupons are accepted "without regard to the identity of the coupon holder." These elements are clearly not taught or suggested in the disclosure of *Barnett*. As was explained to the Examiner during the Interview, *Barnett* states that the identification of the user is required to make each coupon "unique" and to provide added security for each issued coupon (col. 7, lines 21-31). Thus, *Barnett* clearly fails to disclose the claimed features.

It is mandated that the USPTO determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction "in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Indeed, the rules of the PTO require that application claims must "conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description." 37 CFR 1.75(d)(1) (MPEP 2111). The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1359 (Fed. Cir. 1999).

Appellants respectfully submit that, not only is the Examiner misinterpreting the scope and content of the prior art, but is also applying a claim interpretation to the present application that is inconsistent with the express claim language, and clearly contrary to well-understood technical terms of art (i.e., "cryptographic security codes").

E. THE PATENTABILITY OF CLAIMS 12-14, 34-36, 39-41 AND 61-63 RENDERS MOOT THE REJECTIONS OF CLAIMS 15-33, AND 42-60

Dependent Claims 15-33 and 42-60 were also rejected under 35 U.S.C. §102(e) as being unpatentable over *Barnett et al.* (US Patent 6,321,208). Appellants respectfully submit that the patentability of independent Claims 12-14, 34-36, 39-41 and 61-63 as previously discussed renders moot the obviousness rejections of Claims 15-33 and 42-60. In this regard, the cited art fails to teach or suggest the elements of these claims in direct/indirect combination with their respective independent claims.

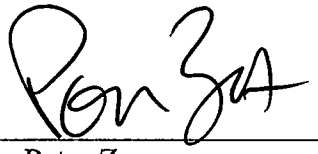
VIII. CONCLUSION

Appellants respectfully submit that Claims 12-36 and 39-63 are novel and non-obvious in view of the cited references for the reasons previously discussed. Accordingly, Appellants respectfully submit that the rejections under 35 U.S.C. §102(e) are erroneous in law and in fact and should therefore be reversed by this Board.

The Director is authorized to charge $500 for the Appeal Brief and any additional fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 115274-008 on the account statement.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY 

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CLAIMS APPENDIX

PENDING CLAIMS ON APPEAL OF U.S. PATENT APPLICATION SERIAL NO. 09/054,180

Claims 1-11 (canceled).

Claim 12 (previously presented): An electronic commerce system comprising:

a client computer; and

a server computer;

the client computer and the server computer being interconnected by a public packet switched communications network;

the client computer being programmed to transmit to the server computer an order acceptance request comprising a plurality of terms or conditions of a proposed offer for a purchase, the order acceptance request comprising a discrete message that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements, at least one of the modular elements individually protected by a cryptographic security code being a digital coupon;

the server computer being programmed to process the order acceptance request based on pre-programmed criteria, including authentication of the cryptographic security codes embedded within each of the modular elements and examination of the modular elements of the discrete message individually protected by the cryptographic security codes, and, based on the processing of the order acceptance request, to transmit to the client computer an order acceptance response based on the pre-programmed criteria, the order acceptance response comprising a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements;

wherein the client computer is programmed to receive the digital coupon, protected by a cryptographic security code, from another computer.

Claim 13 (previously presented): An electronic commerce system comprising:

a client computer; and

a server computer;

the client computer and the server computer being interconnected by a public packet switched communications network;

the client computer being programmed to transmit to the server computer an order acceptance request comprising a plurality of terms or conditions of a proposed offer for a purchase, the order acceptance request comprising a discrete message that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements, at least one of the modular elements individually protected by a cryptographic security code being a digital coupon;

the server computer being programmed to process the order acceptance request based on pre-programmed criteria, including authentication of the cryptographic security codes embedded within each of the modular elements and examination of the modular elements of the discrete message individually protected by the cryptographic security codes, and, based on the processing of the order acceptance request, to transmit to the client computer an order acceptance response based on the pre-programmed criteria, the order acceptance response comprising a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements;

wherein the digital coupon is configured to be used by any coupon holder that possesses the digital coupon, and wherein the server computer is programmed to accept the digital coupon without regard to the identity of the coupon holder.

Claim 14 (previously presented): An electronic commerce system comprising:

a client computer; and

a server computer;

the client computer and the server computer being interconnected by a public packet switched communications network;

the client computer being programmed to transmit to the server computer an order acceptance request comprising a plurality of terms or conditions of a proposed offer for a purchase, the order acceptance request comprising a discrete message that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements, at least one of the modular elements individually protected by a cryptographic security code being a digital coupon;

the server computer being programmed to process the order acceptance request based on pre-programmed criteria, including authentication of the cryptographic security codes embedded within each of the modular elements and examination of the modular elements of the discrete message individually protected by the cryptographic security codes, and, based on the processing of the order acceptance request, to transmit to the client computer an order acceptance response based on the pre-programmed criteria, the order acceptance response comprising a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements;

wherein the server computer is programmed to determine whether a coupon holder is authorized to use the digital coupon and to accept the digital coupon only if the coupon holder is authorized to use the digital coupon.

Claim 15 (previously presented): The electronic commerce system of claim 14 wherein the client computer is programmed to provide information to the server computer concerning identify of the coupon holder.

Claim 16 (previously presented): The electronic commerce system of claim 15 wherein the server computer is programmed to authenticate authority of the client computer by virtue of a two-way-authenticated SSL connection.

Claim 17 (previously presented): The electronic commerce system of claim 15 wherein the server computer is programmed to authenticate authority of the client computer using a basic authentication method.

Claim 18 (previously presented): The electronic commerce system of claim 15 wherein the server computer is programmed to authenticate authority of the client computer using a client certificate.

Claim 19 (previously presented): The electronic commerce system of claim 3 wherein the digital coupon contains a serial number to ensure that the digital coupon is used only once and the server computer is programmed to determine whether the digital coupon has been used previously and to accept the digital coupon only if it has not been used previously.

Claim 20 (previously presented): The electronic commerce system of claim 3 wherein the server computer is programmed to set at least one term of the order acceptance response based on whether the digital coupon is present in the order acceptance request.

Claim 21 (previously presented): The electronic commerce system of claim 20 wherein the at least one term of the order acceptance response is a price.

Claim 22 (previously presented): The electronic commerce system of claim 3 wherein the server computer is programmed to set at least one term of the order acceptance response based on whether the digital coupon in the order acceptance request is a particular type of digital coupon.

Claim 23 (previously presented): The electronic commerce system of claim 3 wherein the digital coupon is a gift certificate.

Claim 24 (previously presented): The electronic commerce system of claim 23 wherein the gift certificate comprises a serial number.

Claim 25 (previously presented): The electronic commerce system of claim 24 wherein the server computer is programmed to ensure that the serial number has been used only once by checking a database in which the serial number is stored.

Claim 26 (previously presented): The electronic commerce system of claim 23 wherein the client computer is programmed to display an icon of the gift certificate and to initiate the order acceptance request after a recipient of the gift certificate clicks on the icon.

Claim 27 (previously presented): The electronic commerce system of claim 26 further comprising a merchant computer, the merchant computer being programmed to respond to the recipient clicking on the icon by transmitting an order form to the client computer, the client computer being programmed to initiate the order acceptance request when the recipient fills in the order form.

Claim 28 (previously presented): The electronic commerce system of claim 23 wherein the client computer is a first client computer programmed to receive the gift certificate from a second client computer.

Claim 29 (previously presented): The electronic commerce system of claim 28 wherein the server computer is programmed to transmit the gift certificate to the second client computer, which in turn is programmed to forward the gift certificate to the first client computer.

Claim 30 (previously presented): The electronic commerce system of claim 29 wherein the gift certificate comprises a serial number and the server computer is programmed to create the serial number of the gift certificate before transmitting the gift certificate to the second client computer.

Claim 31 (previously presented): The electronic commerce system of claim 30 wherein the server computer is programmed to store the serial number in a database before transmitting the gift certificate to the second client computer, and is programmed, when it receives the gift certificate from the first client computer to ensure that the serial number has been used only once by checking the database in which the serial number is stored.

Claim 32 (previously presented): The electronic commerce system of claim 29 further comprising a merchant computer programmed to transmit the gift certificate to the server computer before the server computer transmits the gift certificate to the second client computer.

Claim 33 (previously presented): The electronic commerce system of claim 32 wherein the merchant computer is programmed to transmit the gift certificate to the server computer in the form of an order acceptance request that includes extension information indicating that the order acceptance request is a gift certificate.

Claim 34 (previously presented): An electronic commerce system comprising:

a client computer; and

a server computer;

the client computer and the server computer being interconnected by a public packet switched communications network;

the client computer being programmed to transmit to the server computer an order acceptance request comprising a plurality of terms or conditions of a proposed offer for a purchase, the order acceptance request comprising a discrete message that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements, at least one of the modular elements individually protected by a cryptographic security code being a digital coupon;

the server computer being programmed to process the order acceptance request based on pre-programmed criteria, including authentication of the cryptographic security codes embedded within each of the modular elements and examination of the modular elements of the discrete message individually protected by the cryptographic security codes, and, based on the processing of the order acceptance request, to transmit to the client computer an order acceptance response

based on the pre-programmed criteria, the order acceptance response comprising a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements;

wherein the cryptographic security codes are embedded within respective ones of the plurality of modular elements.

Claim 35 (previously presented): An electronic commerce system comprising:

a client computer; and

a server computer;

the client computer and the server computer being interconnected by a public packet switched communications network;

the client computer being programmed to transmit to the server computer an order acceptance request comprising a plurality of terms or conditions of a proposed offer for a purchase, the order acceptance request comprising a discrete message that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements, at least one of the modular elements individually protected by a cryptographic security code being a digital coupon;

the server computer being programmed to process the order acceptance request based on pre-programmed criteria, including authentication of the cryptographic security codes embedded within each of the modular elements and examination of the modular elements of the discrete message individually protected by the cryptographic security codes, and, based on the processing of the order acceptance request, to transmit to the client computer an order acceptance response based on the pre-programmed criteria, the order acceptance response comprising a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements;

wherein the cryptographic security codes are digital signatures.

Claim 36 (previously presented): An electronic commerce system comprising:

a client computer; and

a server computer;

the client computer and the server computer being interconnected by a public packet switched communications network;

the client computer being programmed to transmit to the server computer an order acceptance request comprising a plurality of terms or conditions of a proposed offer for a purchase, the order acceptance request comprising a discrete message that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements, at least one of the modular elements individually protected by a cryptographic security code being a digital coupon;

the server computer being programmed to process the order acceptance request based on pre-programmed criteria, including authentication of the cryptographic security codes embedded within each of the modular elements and examination of the modular elements of the discrete message individually protected by the cryptographic security codes, and, based on the processing of the order acceptance request, to transmit to the client computer an order acceptance response based on the pre-programmed criteria, the order acceptance response comprising a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements;

wherein the cryptographic security codes are message authentication codes.

Claims 37-38 (canceled).

Claim 39 (previously presented): A method of processing order acceptance requests in an electronic commerce system, comprising a client computer and a server computer interconnected by a public packet switched communications network, the method comprising:

receiving at the server computer an order acceptance request transmitted by the client computer comprising a plurality of terms or conditions of a proposed offer for a purchase, the order acceptance request comprising a discrete message that includes a plurality of modular elements whose individual integrity is protected by cryptographic security codes embedded

within each of the modular elements, at least one of the modular elements individually protected by a cryptographic security code being a digital coupon;

processing the order acceptance request based on pre-programmed criteria, including authentication of the cryptographic security codes and examination of the modular elements of the discrete message individually protected by the cryptographic security codes; and

based on the processing of the order acceptance request, transmitting to the client computer an order acceptance response based on the pre-programmed criteria, the order acceptance response comprising a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by cryptographic security codes embedded within each of the modular elements;

wherein the client computer receives the digital coupon, protected by a cryptographic security code, from another computer.

Claim 40 (previously presented): A method of processing order acceptance requests in an electronic commerce system, comprising a client computer and a server computer interconnected by a public packet switched communications network, the method comprising:

receiving at the server computer an order acceptance request transmitted by the client computer comprising a plurality of terms or conditions of a proposed offer for a purchase, the order acceptance request comprising a discrete message that includes a plurality of modular elements whose individual integrity is protected by cryptographic security codes embedded within each of the modular elements, at least one of the modular elements individually protected by a cryptographic security code being a digital coupon;

processing the order acceptance request based on pre-programmed criteria, including authentication of the cryptographic security codes and examination of the modular elements of the discrete message individually protected by the cryptographic security codes; and

based on the processing of the order acceptance request, transmitting to the client computer an order acceptance response based on the pre-programmed criteria, the order acceptance response comprising a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by cryptographic security codes embedded within each of the modular elements;

wherein the digital coupon is configured to be used by any coupon holder that possesses the digital coupon, the method further comprising accepting the digital coupon at the server computer is programmed without regard to identity to the coupon holder.

Claim 41 (previously presented): A method of processing order acceptance requests in an electronic commerce system, comprising a client computer and a server computer interconnected by a public packet switched communications network, the method comprising:

receiving at the server computer an order acceptance request transmitted by the client computer comprising a plurality of terms or conditions of a proposed offer for a purchase, the order acceptance request comprising a discrete message that includes a plurality of modular elements whose individual integrity is protected by cryptographic security codes embedded within each of the modular elements, at least one of the modular elements individually protected by a cryptographic security code being a digital coupon;

processing the order acceptance request based on pre-programmed criteria, including authentication of the cryptographic security codes and examination of the modular elements of the discrete message individually protected by the cryptographic security codes; and

based on the processing of the order acceptance request, transmitting to the client computer an order acceptance response based on the pre-programmed criteria, the order acceptance response comprising a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by cryptographic security codes embedded within each of the modular elements;

further comprising the steps of determining whether a coupon holder is authorized to use the digital coupon and accepting the digital coupon at the server computer only if the coupon holder is authorized to use the digital coupon.

Claim 42 (previously presented): The method of claim 41 further comprising receiving information at the server computer provided by the client computer concerning identify of the coupon holder.

Claim 43 (previously presented): The method of claim 42 further comprising authenticating authority of the client computer, at the server computer, by virtue of a two-way-authenticated SSL connection.

Claim 44 (previously presented): The method of claim 42 wherein authenticating authority of the client computer is performed using a basic authentication method.

Claim 45 (previously presented): The method of claim 42 wherein authenticating authority of the client computer is performed using a client certificate.

Claim 46 (previously presented): The method of claim 37 wherein the digital coupon contains a serial number to ensure that the digital coupon is used only once, the method further comprising determining at the server computer whether the digital coupon has been used previously and accepting the digital coupon only if it has not been used previously.

Claim 47 (previously presented): The method of claim 37 further comprising setting, at the server computer, at least one term of the order acceptance response based on whether the digital coupon is present in the order acceptance request.

Claim 48 (previously presented): The method of claim 47 wherein the at least one term of the order acceptance response is a price.

Claim 49 (previously presented): The method of claim 37 further comprising setting, at the server computer, at least one term of the order acceptance response based on whether the digital coupon in the order acceptance request is a particular type of digital coupon.

Claim 50 (previously presented): The method of claim 37 wherein the digital coupon is a gift certificate.

Claim 51 (previously presented): The method of claim 50 wherein the gift certificate comprises a serial number.

Claim 52 (previously presented): The method of claim 51 further comprising ensuring that the serial number has been used only once by checking a database at the server computer in which the serial number is stored.

Claim 53 (previously presented): The method of claim 50 wherein the client computer displays an icon of the gift certificate and initiates the order acceptance request after a recipient of the gift certificate clicks on the icon.

Claim 54 (previously presented): The method of claim 53 wherein the electronic commerce system further comprises a merchant computer and wherein the merchant computer responds to the recipient clicking on the icon by transmitting an order form to the client computer, and wherein the client computer initiates the order acceptance request when the recipient fills in the order form.

Claim 55 (previously presented): The method of claim 50 wherein the client computer is a first client computer that receive the gift certificate from a second client computer in the electronic commerce system.

Claim 56 (previously presented): The method of claim 55 further comprising transmitting the gift certificate from the server computer to the second client computer, which in turn forwards the gift certificate to the first client computer.

Claim 57 (previously presented): The method of claim 56 wherein the gift certificate comprises a serial number and wherein the method further comprises creating the serial number of the gift certificate at the server computer before transmitting the gift certificate to the second client computer.

Claim 58 (previously presented): The method of claim 56 further comprising storing the serial number in a database at the server computer before transmitting the gift certificate to the second client computer, and when the server computer receives the gift

certificate from the first client computer, ensuring that the serial number has been used only once by checking the database at the server computer in which the serial number is stored.

Claim 59 (previously presented): The method of claim 56 further wherein the electronic commerce system further comprises a merchant computer, the method further comprising receiving the gift certificate at the server computer from the merchant computer before transmitting the gift certificate from the server computer to the second client computer.

Claim 60 (previously presented): The method of claim 59 wherein the merchant computer transmits the gift certificate to the server computer in the form of an order acceptance request that includes extension information indicating that the order acceptance request is a gift certificate.

Claim 61 (previously presented): A method of processing order acceptance requests in an electronic commerce system, comprising a client computer and a server computer interconnected by a public packet switched communications network, the method comprising:

receiving at the server computer an order acceptance request transmitted by the client computer comprising a plurality of terms or conditions of a proposed offer for a purchase, the order acceptance request comprising a discrete message that includes a plurality of modular elements whose individual integrity is protected by cryptographic security codes embedded within each of the modular elements, at least one of the modular elements individually protected by a cryptographic security code being a digital coupon;

processing the order acceptance request based on pre-programmed criteria, including authentication of the cryptographic security codes and examination of the modular elements of the discrete message individually protected by the cryptographic security codes; and

based on the processing of the order acceptance request, transmitting to the client computer an order acceptance response based on the pre-programmed criteria, the order acceptance response comprising a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by cryptographic security codes embedded within each of the modular elements;

wherein the cryptographic security codes are embedded within respective ones of the plurality of modular elements.

Claim 62 (previously presented): A method of processing order acceptance requests in an electronic commerce system, comprising a client computer and a server computer interconnected by a public packet switched communications network, the method comprising:

receiving at the server computer an order acceptance request transmitted by the client computer comprising a plurality of terms or conditions of a proposed offer for a purchase, the order acceptance request comprising a discrete message that includes a plurality of modular elements whose individual integrity is protected by cryptographic security codes embedded within each of the modular elements, at least one of the modular elements individually protected by a cryptographic security code being a digital coupon;

processing the order acceptance request based on pre-programmed criteria, including authentication of the cryptographic security codes and examination of the modular elements of the discrete message individually protected by the cryptographic security codes; and

based on the processing of the order acceptance request, transmitting to the client computer an order acceptance response based on the pre-programmed criteria, the order acceptance response comprising a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by cryptographic security codes embedded within each of the modular elements;

wherein the cryptographic security codes are digital signatures.

Claim 63 (previously presented): A method of processing order acceptance requests in an electronic commerce system, comprising a client computer and a server computer interconnected by a public packet switched communications network, the method comprising:

receiving at the server computer an order acceptance request transmitted by the client computer comprising a plurality of terms or conditions of a proposed offer for a purchase, the order acceptance request comprising a discrete message that includes a plurality of modular elements whose individual integrity is protected by cryptographic security codes embedded within each of the modular elements, at least one of the modular elements individually protected by a cryptographic security code being a digital coupon;

processing the order acceptance request based on pre-programmed criteria, including authentication of the cryptographic security codes and examination of the modular elements of the discrete message individually protected by the cryptographic security codes; and

based on the processing of the order acceptance request, transmitting to the client computer an order acceptance response based on the pre-programmed criteria, the order acceptance response comprising a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by cryptographic security codes embedded within each of the modular elements;

wherein the cryptographic security codes are message authentication codes.

EVIDENCE APPENDIX

EXHIBIT A: Final Office Action dated June 14, 2006.

EXHIBIT B: *Barnett et al.* (US Patent 6,321,208) cited by the Examiner in the Office Action dated June 14, 2006.

RELATED PROCEEDINGS APPENDIX

None

APPENDIX A

Final Office Action dated June 14, 2006

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/054,180	04/01/1998	BRIAN J. REISTAD	06543035001	2217

24573 7590 06/14/2006

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EXAMINER	
BACKER, FIRMIN	

ART UNIT	PAPER NUMBER
3621	

DATE MAILED: 06/14/2006

Due: 9-14-06

References Downloaded

Please find below and/or attached an Office communication concerning this application or proceeding.

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EXAMINER	
BACKER, FIRMIN	

ART UNIT	PAPER NUMBER
3621	

DATE MAILED: 06/14/2006

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Office Action Summary	Application No.	Applicant(s)	
	09/054,180	REISTAD ET AL.	
	Examiner	Art Unit	
	FIRMN BACKER	3621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2006* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-36 and 39-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-36 and 39-63* is/are rejected.

7)☐ Claim(s) *19-32 and 46-60* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections (2nd time)

1. Claims 19-32 and 46-60 are objected to because of the following informalities: claims 19-32 and 46-60, claim dependency on claims 3 and 37 which were previously canceled in the application. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 12-36, 39-63 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Barnett et al (U.S. Patent No. 6,321,208).

4. As per claim 12-14, 35-36, 39-41 and 61-63, Barnett et al teach an electronic commerce system (*provided is a system for distributing and generating at a remote site product redemption coupons)* comprising a client computer (*user's remote personal computer, 6)* and a server computer (*online provider, 2) (see fig 1)* the client computer and the server computer being interconnected by a public packet switched communications network (*internet) (see fig 1)* the

client computer being programmed to transmit to the server computer an order acceptance request (*request for coupon)* comprising a plurality of terms or conditions of a proposed offer for a purchase, the order acceptance request comprising a discrete message that includes at least one of the modular elements (*coupon) (fig 5)* individually protected by a cryptographic security code being a digital coupon (*the coupons 18 contain user-specific data in the form of a unique user bar code encoded with user-specific information such as the user name and/or other unique identification criteria such as a social security number or online service address*) (*see fig 1, 2, 5, column 7 lines 20-55)*, the server computer being programmed to process the order acceptance request based on pre-programmed criteria including authentication and examination (*verifies the value of the redeemed coupons, determines the identification of users who redeemed the coupons*) of the cryptographic security codes embedded within each of the modular elements and examination of the modular elements of the discrete message individually protected by the cryptographic security codes (*unique user bar code encoded with user-specific information)*, and, based on the processing of the order acceptance request, to transmit to the client computer an order acceptance response based on the pre-programmed criteria, the order acceptance response comprising a discrete message transmitted during a negotiation phase of a transaction that includes a plurality of modular elements whose individual integrity is protected by embedding cryptographic security codes within each of the modular elements (*see fig 1, 2, 5, column 7 lines 20-55)*, wherein the client computer is programmed to receive the digital coupon, protected by a cryptographic security code, from another computer (*coupon distributor, 16) (see fig 1)*.

5. As per claim 13, 42, Barnett et al teach a system wherein the client computer is programmed to provide information to the server computer concerning identify of the coupon holder (*see fig 1, 2, 5, column 7 lines 20-55).*

6. As per claim 14-18, 43-45, Barnett et al teach a system wherein the server computer is programmed to authenticate authority of the client computer by virtue of a two-way-authenticated SSL connection using a basic authentication method such as a client certificate (*see fig 1).*

7. As per claim 19, 46, Barnett et al teach a system wherein the digital coupon contains a serial number to ensure that the digital coupon is used only once and the server computer is programmed to determine whether the digital coupon has been used previously and to accept the digital coupon only if it has not been used previously (*see fig 1, 2, 5, column 7 lines 20-55).*

8. As per claim 20, 47, Barnett et al teach a system wherein the server computer is programmed to set at least one term of the order acceptance response based on whether the digital coupon is present in the order acceptance request (*see fig 1, 2, 5, column 7 lines 20-55).*

9. As per claim 21, 48, Barnett et al teach a system wherein the at least one term of the order acceptance response is a price.

10. As per claim 22-24, 49-51, Barnett et al teach a system wherein the server computer is programmed to set at least one term of the order acceptance response based on whether the digital coupon in the order acceptance request is a particular type of digital coupon (gift certificate comprises a serial number.

11. As per claim 25, 52, Barnett et al teach a system wherein the server computer is programmed to ensure that the serial number has been used only once by checking a database in which the serial number is stored (*see fig 1, 2, 5, column 7 lines 20-55).*

12. As per claim 26, 53, Barnett et al teach a system wherein the client computer is programmed to display an icon of the gift certificate and to initiate the order acceptance request after a recipient of the gift certificate clicks on the icon (*see fig 1, 2, 5, column 7 lines 20-55).*

13. As per claim 27, 54, Barnett et al teach a system wherein further comprising a merchant computer, the merchant computer being programmed to respond to the recipient clicking on the icon by transmitting an order form to the client computer, the client computer being programmed to initiate the order acceptance request when the recipient fills in the order form (*see fig 1).*

14. As per claim 28, 55, Barnett et al teach a system wherein the client computer is a first client computer programmed to receive the gift certificate from a second client computer (*see fig 1).*

15. As per claim 29, 56, Barnett et al teach a system wherein the server computer is programmed to transmit the gift certificate to the second client computer, which in turn is programmed to forward the gift certificate to the first client computer (*see fig 1).*

16. As per claim 30, 57, Barnett et al teach a system wherein the gift certificate comprises a serial number and the server computer is programmed to create the serial number of the gift certificate before transmitting the gift certificate to the second client computer (*see fig 1).*

17. As per claim 31, 58, Barnett et al teach a system wherein the server computer is programmed to store the serial number in a database before transmitting the gift certificate to the second client computer, and is programmed, when it receives the gift certificate from the first client computer to ensure that the serial number has been used only once by checking the database in which the serial number is stored (*see fig 1, 2, 5, column 7 lines 20-55).*

18. As per claim 32, 59, Barnett et al teach a system further comprising a merchant computer programmed to transmit the gift certificate to the server computer before the server computer transmits the gift certificate to the second client computer (*see fig 1).*

19. As per claim 33, 60, Barnett et al teach a system wherein the merchant computer is programmed to transmit the gift certificate to the server computer in the form of an order acceptance request that includes extension information indicating that the order acceptance request is a gift certificate (*see fig 1, 2, 5, column 7 lines 20-55).*

Response to Arguments

20. Applicant's arguments filed March 29th, 2006 have been fully considered but they are not persuasive.

a. Applicant arguer that the prior art fail to teach a system wherein a client computer configured for transmitting a order acceptance request over a network including a plurality of modular element that is individually encrypted wherein the order of acceptance including modular elements whose integrity is protected by security code. Examiner respectively disagrees with Applicant characterization of the prior art. Barnett et al teach among other thing a shopping list function button calls the shopping list generation routine when selected by the user. This routine will allow the user to generate a list from a menu presented on the screen whichever items the user desires to purchase, and the user can store and/or print this list as desired. The items on the list are compared against coupon data stored in the coupon database and the user is informed of their existence. The user may then print out those coupons along with the shopping list. Alternatively, the user may select certain coupons for printing, and the item associated therewith is automatically placed on the shopping list. Thus, in either fashion, the user's shopping list generation and coupon "clipping" tasks are conveniently merged in a timesaving manner. Examiner disagrees that the bar code provide in the present invention is irrelevant to the cryptographic encoding in the present application. Barnett's coupons contain user-specific data in the form of a unique user bar code. The user bar code is

encoded with user-specific information such as the user name and/or other unique identification criteria such as a social security number or online service address (emphasis added). This information renders each printed coupon unique, since an otherwise similar coupon presented by a different consumer will comprise a different user bar code. The use of a unique coupon is but one aspect of the secure nature of the present invention as will be described in detail below. Barnett further indicate that ***the unique user bar code renders the electronic coupon system of the present invention secure and virtually fraud-proof***. Although a user is able to print out a particular coupon only once (to be described in detail below), the coupon issuer could still be defrauded by a user or retailer who might photocopy a printed coupon numerous times and fraudulently and repeatedly present it for redemption. However, in accordance with the present invention, each coupon printed by a user is unique, and the scanning of a coupon presented for redemption will be stored at the coupon redemption center. Thus, the coupon issuer will know if a particular user has redeemed a particular coupon and thus disallow further redemption of a photocopied coupon bearing the same indicia.

b. For the reason state above this action is made final

Examiner's note

21. The Examiner has pointed out particular references contained in the prior art of record in the body of this action for the convenience of the Applicant. Although the specified citations are

representative of the teachings in the art and are applied to the specific limitations within the individual claims, other passages and figures apply as well. It is requested from the Applicant, in preparing the response, to consider fully the entire references as well as the context of all passages in the cited references as potentially teaching all or part of the claimed inventions.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FIRMN BACKER whose telephone number is 571-272-6703. The examiner can normally be reached on Monday - Thursday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trammell can be reached on (571) 272-6712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FIRMN BACKER
Primary Examiner
Art Unit 3621

June 4, 2006

Notice of References Cited	Application/Control No. 09/054,180	Applicant(s)/Patent Under Reexamination REISTAD ET AL.	
	Examiner Firmin Backer	Art Unit 3621	Page 1 of 1

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*	B	US-2003/0037072	02-2003	BOWMAN et al.	707/201
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	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

APPENDIX B

Barnett et al. (US Patent 6,321,208) cited by the Examiner in the Office Action dated June 14, 2006.

US006321208B1

(12) **United States Patent**
Barnett et al.

(10) **Patent No.: US 6,321,208 B1**
(45) **Date of Patent: *Nov. 20, 2001**

(54) **METHOD AND SYSTEM FOR ELECTRONIC DISTRIBUTION OF PRODUCT REDEMPTION COUPONS**

(75) Inventors: **Craig W. Barnett; Karen R. Reisner**, both of Princeton, NJ (US); **Mark Braunstein**, New York, NY (US)

(73) Assignee: **BrightStreet.com, Inc.**, Mountain View, CA (US)

(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **08/425,185**

(22) Filed: **Apr. 19, 1995**

(51) **Int. Cl.**[7] **G06F 17/60**

(52) **U.S. Cl.** **705/14**; 707/70

(58) **Field of Search** 364/401, 406, 364/408; 395/214, 216, 220, 226; 340/825.34; 235/381; 705/14, 16, 20, 26; 707/3, 10, 4, 9, 100, 104, 515, 526

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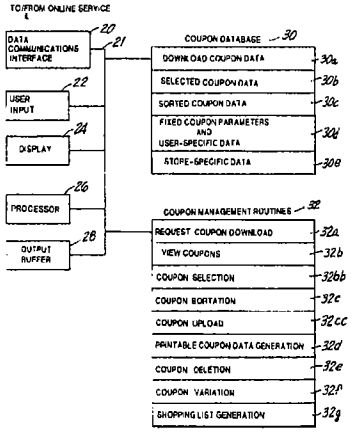
Primary Examiner—Frantzy Poinvil
(74) *Attorney, Agent, or Firm*—Hunton & Williams

(57) **ABSTRACT**

Provided is a method and system for the electronic distribution of product redemption coupons to remote personal computers located at users' homes. A centrally located repository, such as an online service provider or web site on the Internet, stores packages of coupon data for downloading on demand to the user's computer. The user may view, select, sort and print desired coupons from the downloaded package. The user's demographic as well as coupon selection data is provided back to the online service and coupon distributor and issuers for subsequent marketing analysis. The online service can perform subsequent coupon processing on previously downloaded coupon packages such as variation of discount amounts. The online service provider can also determine how many times a particular coupon was viewed. When the printed coupons are presented at a retail store, the discount is provided to the user. Upon redemption by the store via a coupon redeeming center, transaction data is also supplied to the coupon issuers and distributor for integration into marketing analysis. The electronic coupon system is secure due to the inclusion of user-specific identification indicia printed thereon.

8 Claims, 8 Drawing Sheets



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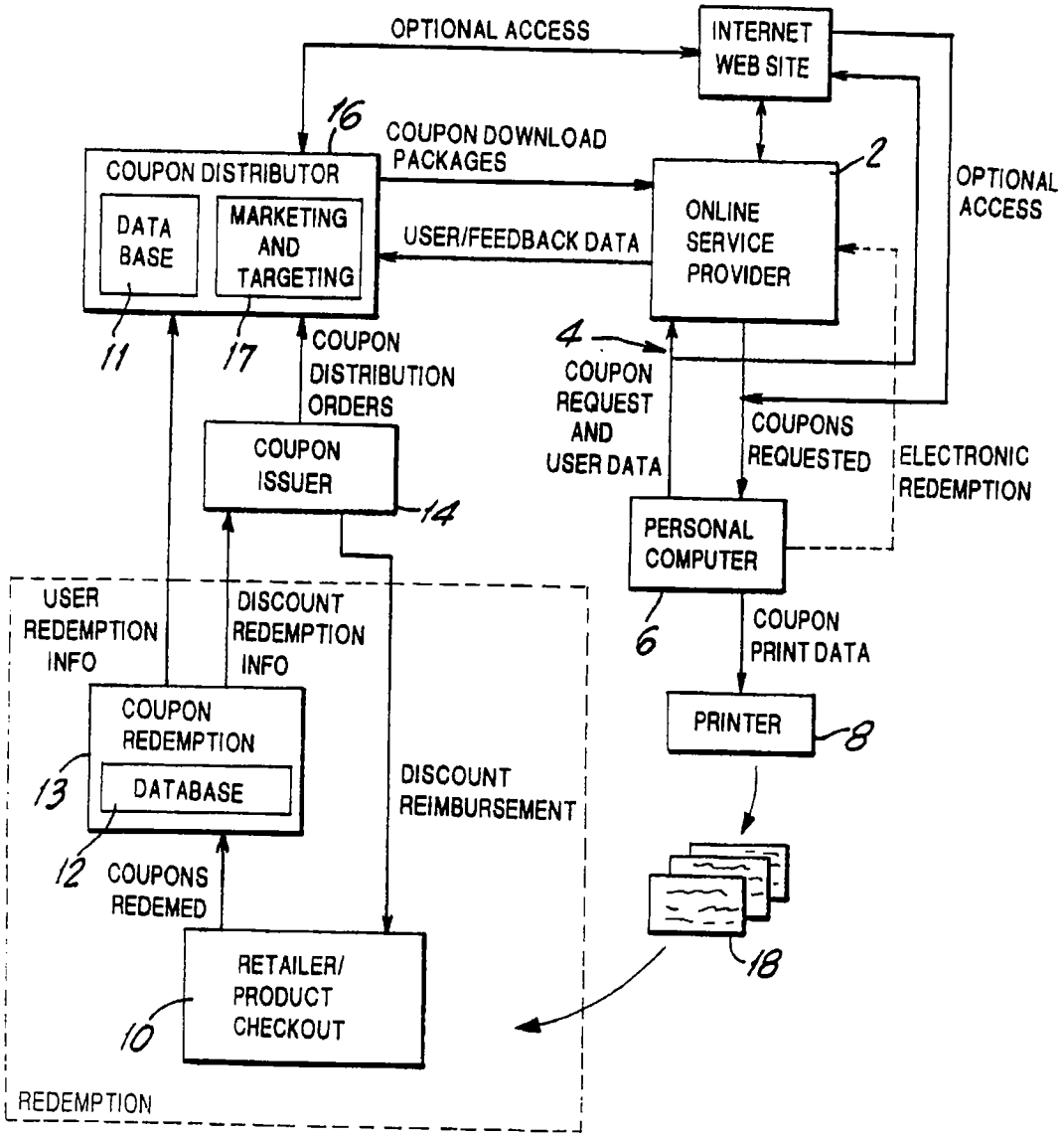
OPTIONAL ACCESS
INTERNET WEB SITE
16
COUPON DOWNLOAD PACKAGES
COUPON DISTRIBUTOR
DATA BASE
MARKETING AND TARGETING
USER/FEEDBACK DATA
ONLINE SERVICE PROVIDER
2
OPTIONAL ACCESS
11
17
COUPON DISTRIBUTION ORDERS
4
COUPON REQUEST AND USER DATA
COUPONS REQUESTED
ELECTRONIC REDEMPTION
COUPON ISSUER
14
PERSONAL COMPUTER
6
USER REDEMPTION INFO
DISCOUNT REDEMPTION INFO
COUPON PRINT DATA
COUPON REDEMPTION
PRINTER
8
13
DATABASE
DISCOUNT REIMBURSEMENT
12
COUPONS REDEMED
18
RETAILER/ PRODUCT CHECKOUT
10
REDEMPTION

FIG.1

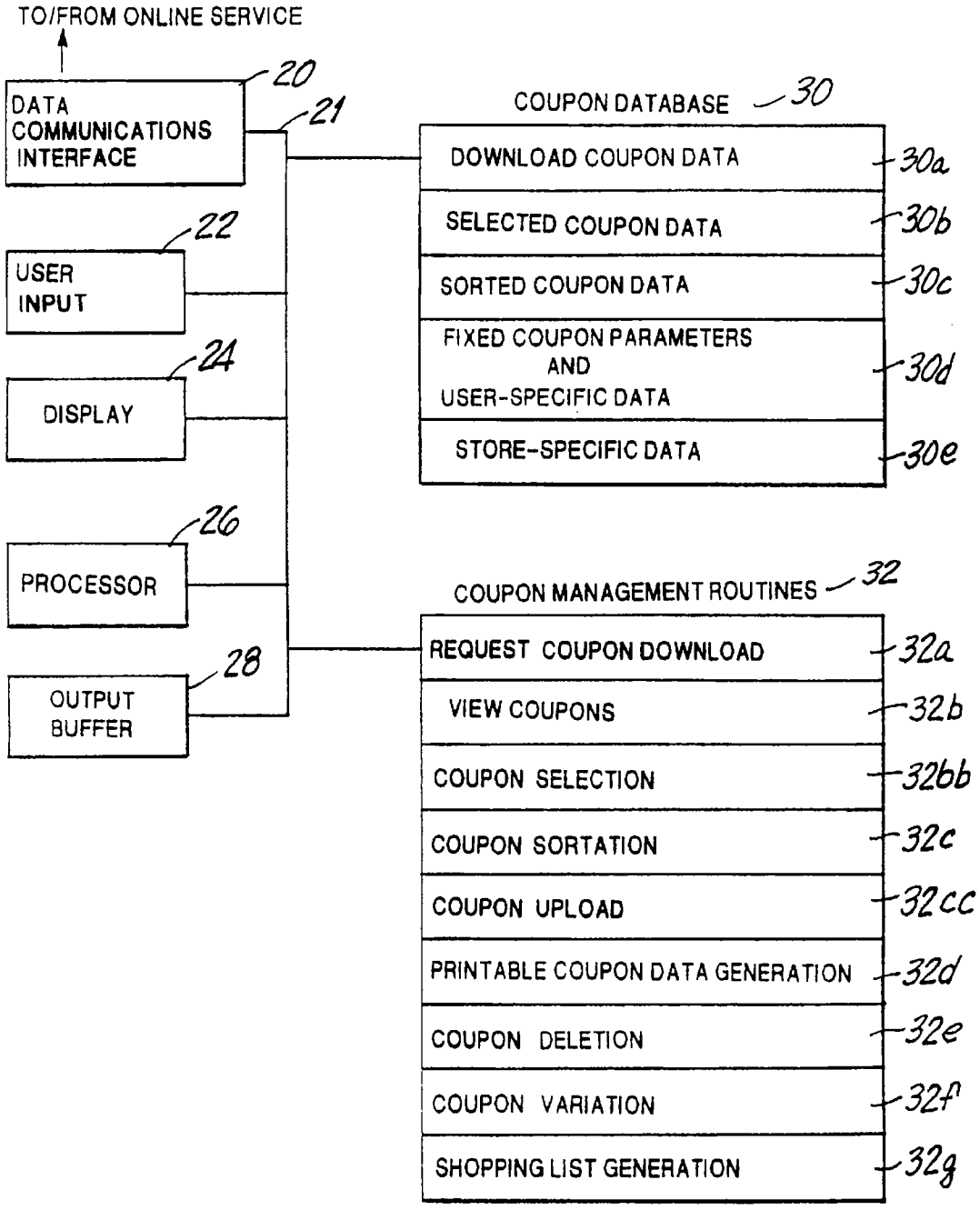
TO/FROM ONLINE SERVICE
DATA COMMUNICATIONS INTERFACE
20
21
USER INPUT
22
DISPLAY
24
PROCESSOR
26
OUTPUT BUFFER
28
COUPON DATABASE
30
DOWNLOAD COUPON DATA
30a
SELECTED COUPON DATA
30b
SORTED COUPON DATA
30c
FIXED COUPON PARAMETERS AND USER-SPECIFIC DATA
30d
STORE-SPECIFIC DATA
30e
COUPON MANAGEMENT ROUTINES
32
REQUEST COUPON DOWNLOAD
32a
VIEW COUPONS
32b
COUPON SELECTION
32bb
COUPON SORTATION
32c
COUPON UPLOAD
32cc
PRINTABLE COUPON DATA GENERATION
32d
COUPON DELETION
32e
COUPON VARIATION
32f
SHOPPING LIST GENERATION
32g

FIG. 2

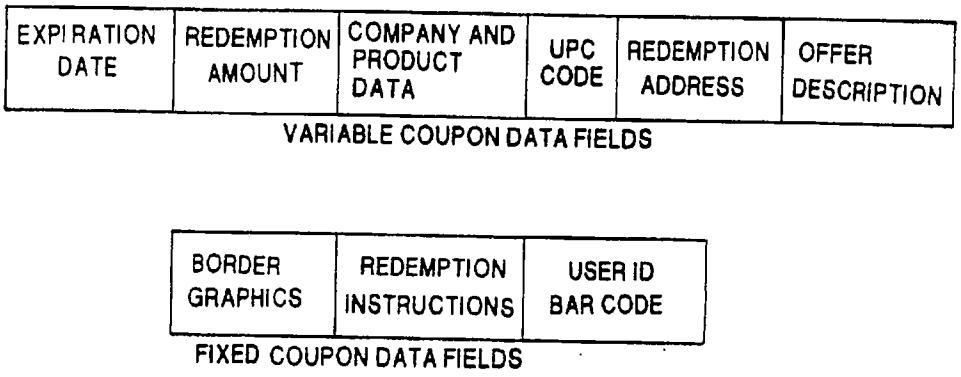

FIG.3

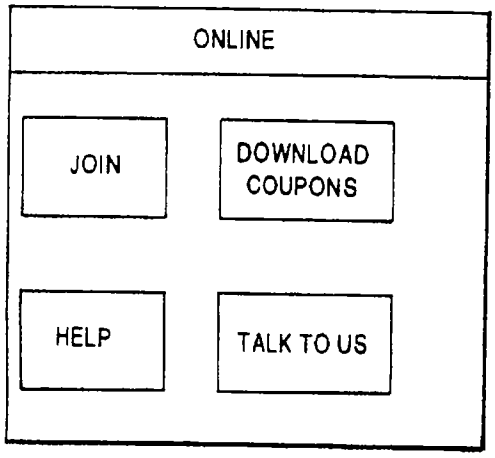

FIG.4A

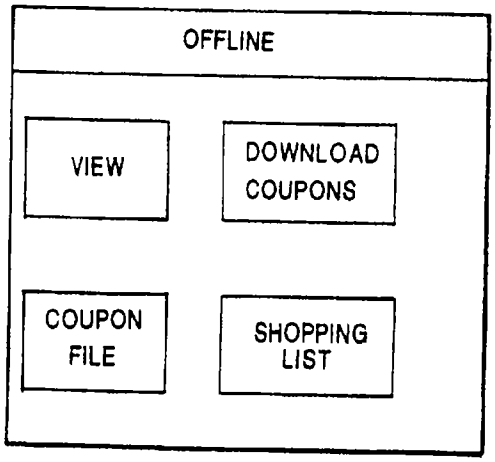

FIG.4B

80
72
74
50¢
Coupons Online
50¢
Save 50¢
Kariba Farms
Sun Dried Mangoes
84
82
90
MANUFACTURER'S COUPON
EXPIRES 3/31/95
88
86
78
76
70

FIG. 5

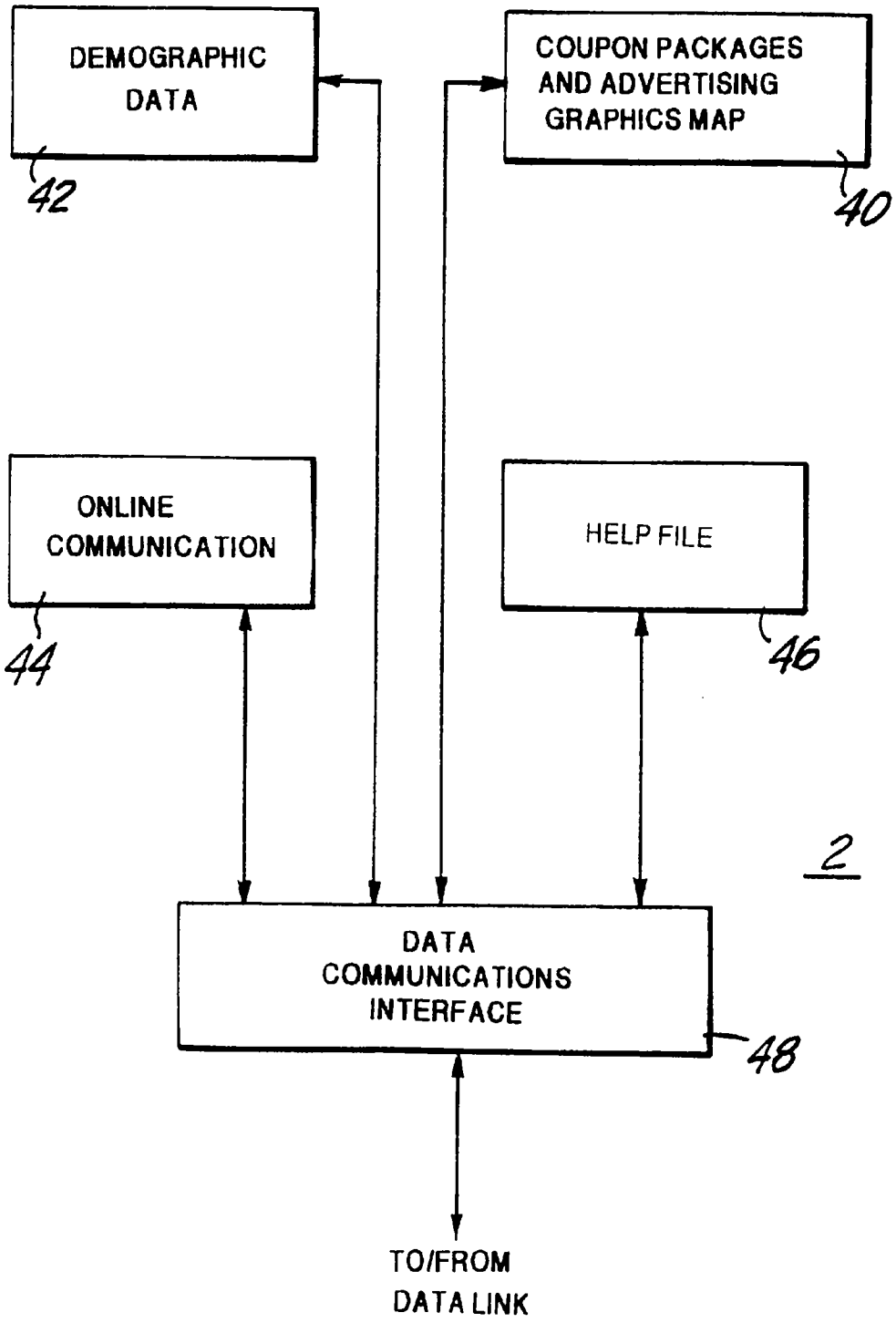
DEMOGRAPHIC DATA
42
COUPON PACKAGES AND ADVERTISING GRAPHICS MAP
40
ONLINE COMMUNICATION
44
HELP FILE
46
2
DATA COMMUNICATIONS INTERFACE
48
TO/FROM DATA LINK

FIG.6

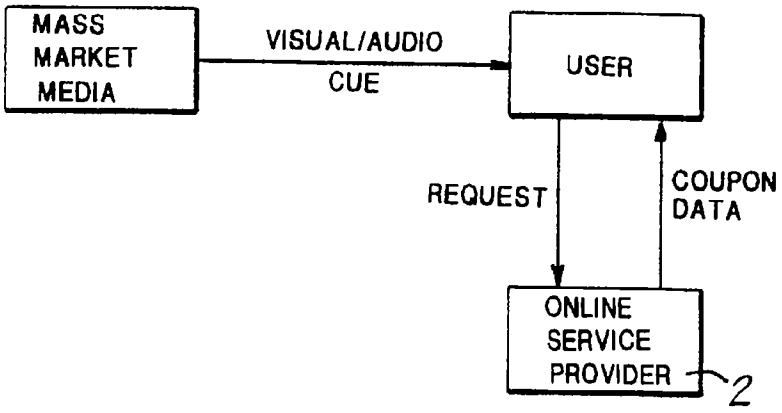
MASS MARKET MEDIA
VISUAL/AUDIO CUE
USER
REQUEST
COUPON DATA
ONLINE SERVICE PROVIDER
2

FIG. 7

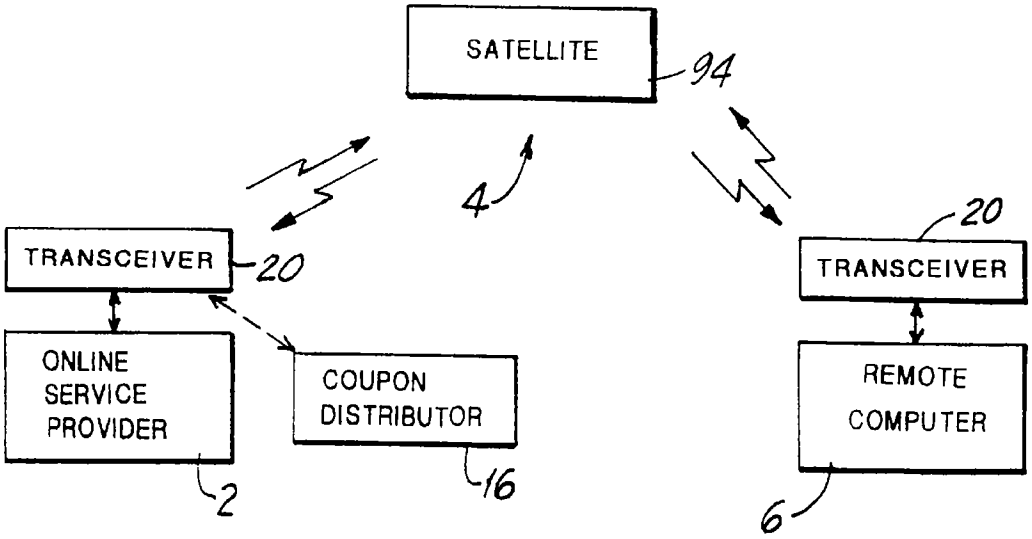
SATELLITE
94
4
TRANSCEIVER
20
ONLINE SERVICE PROVIDER
2
COUPON DISTRIBUTOR
16
20
TRANSCEIVER
REMOTE COMPUTER
6

FIG. 8

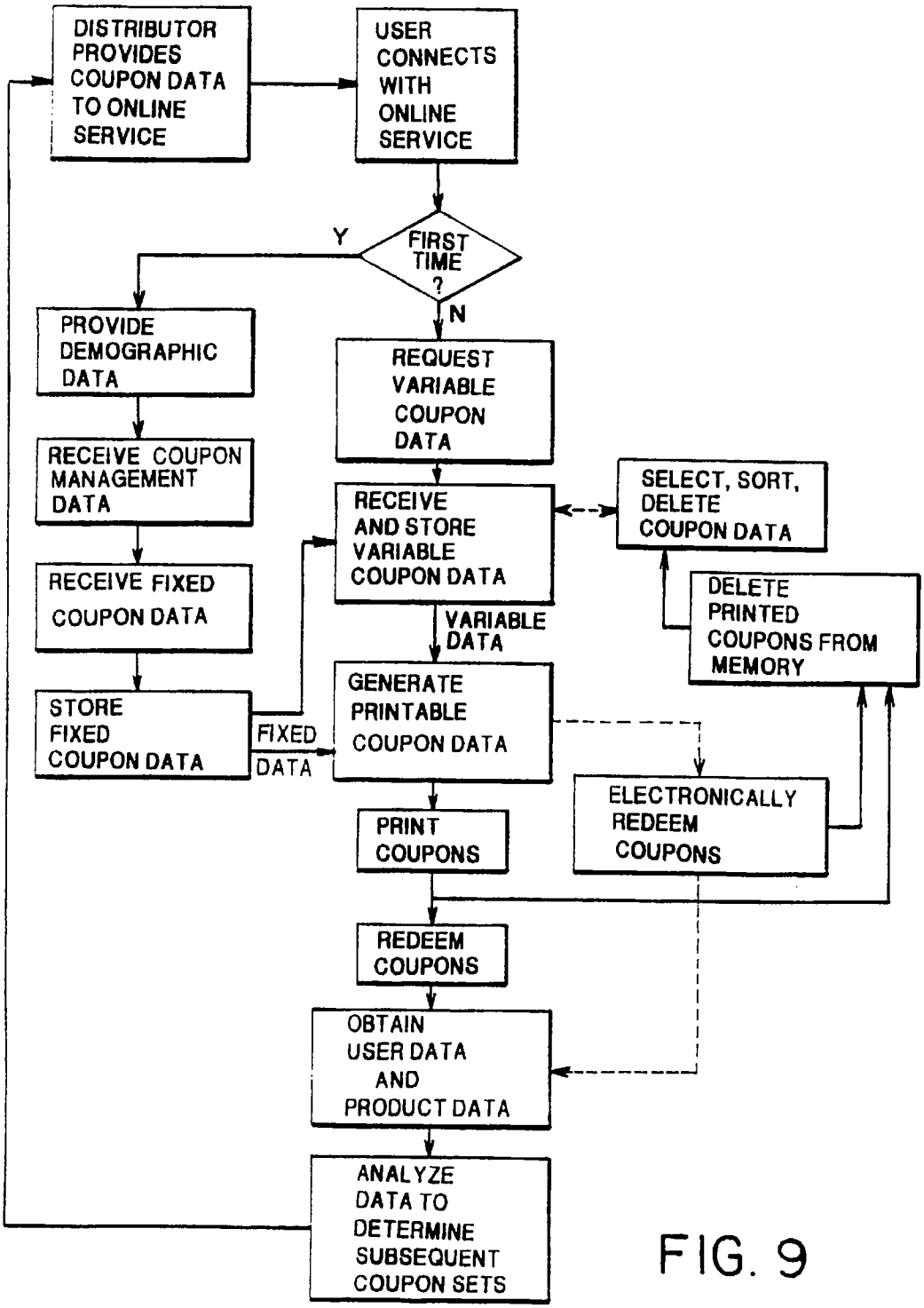
DISTRIBUTOR PROVIDES COUPON DATA TO ONLINE SERVICE
USER CONNECTS WITH ONLINE SERVICE
FIRST TIME ?
Y
N
PROVIDE DEMOGRAPHIC DATA
RECEIVE COUPON MANAGEMENT DATA
RECEIVE FIXED COUPON DATA
STORE FIXED COUPON DATA
REQUEST VARIABLE COUPON DATA
RECEIVE AND STORE VARIABLE COUPON DATA
SELECT, SORT, DELETE COUPON DATA
DELETE PRINTED COUPONS FROM MEMORY
VARIABLE DATA
FIXED DATA
GENERATE PRINTABLE COUPON DATA
ELECTRONICALLY REDEEM COUPONS
PRINT COUPONS
REDEEM COUPONS
OBTAIN USER DATA AND PRODUCT DATA
ANALYZE DATA TO DETERMINE SUBSEQUENT COUPON SETS

FIG. 9

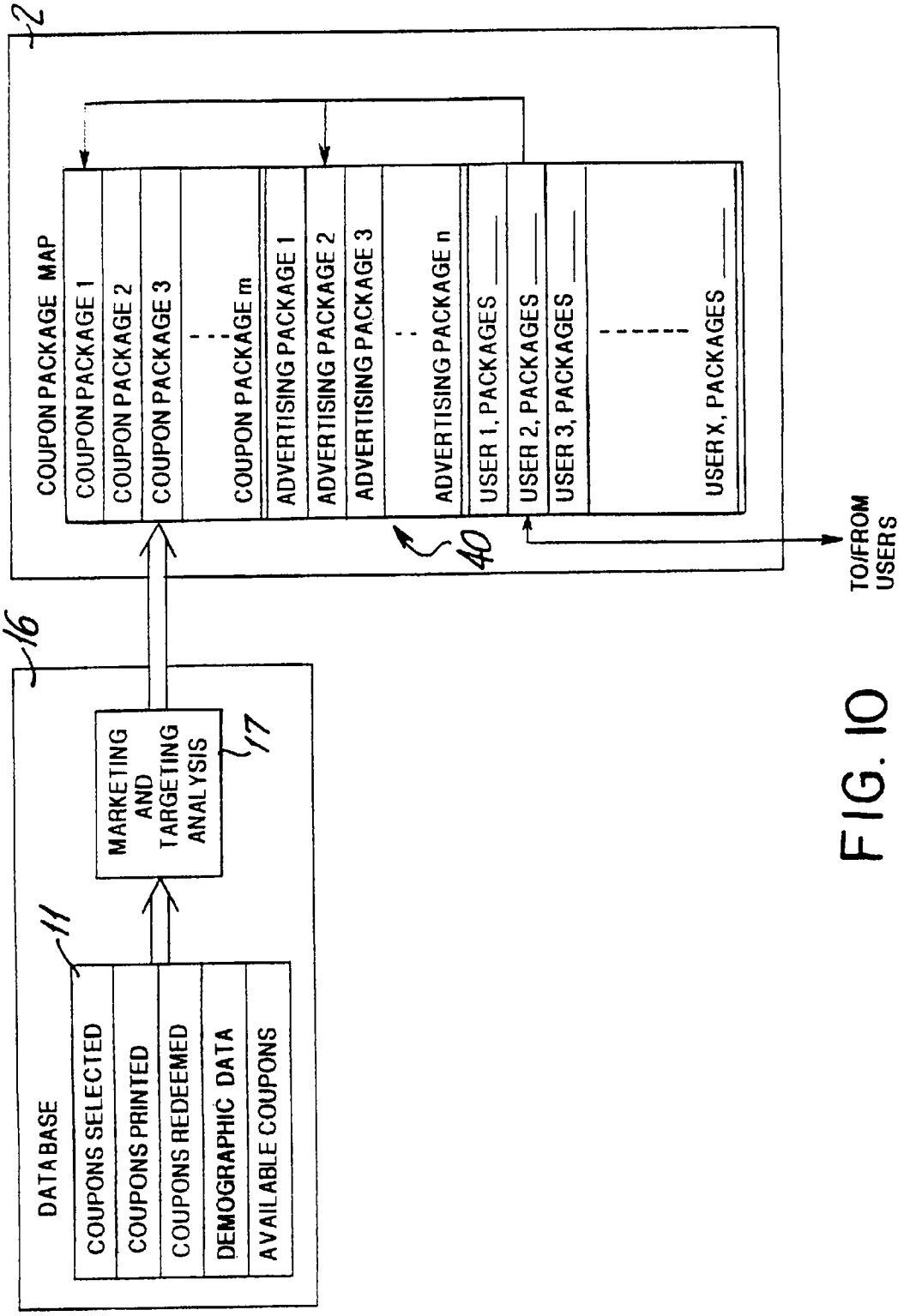
12
COUPON PACKAGE MAP
COUPON PACKAGE 1
COUPON PACKAGE 2
COUPON PACKAGE 3
COUPON PACKAGE m
ADVERTISING PACKAGE 1
ADVERTISING PACKAGE 2
ADVERTISING PACKAGE 3
ADVERTISING PACKAGE n
USER 1, PACKAGES
USER 2, PACKAGES
USER 3, PACKAGES
USER X, PACKAGES
40
TO/FROM USERS
16
MARKETING AND TARGETING ANALYSIS
17
DATA BASE
11
COUPONS SELECTED
COUPONS PRINTED
COUPONS REDEEMED
DEMOGRAPHIC DATA
AVAILABLE COUPONS

FIG. 10

METHOD AND SYSTEM FOR ELECTRONIC DISTRIBUTION OF PRODUCT REDEMPTION COUPONS

BACKGROUND OF THE INVENTION

The present invention relates to the electronic distribution of secure money saving or discount coupons and other marketing incentives and in particular to use of a centrally located online computer system for interactively distributing such coupons to remotely connected consumer computers and for collecting user-specific data regarding coupon usage and user demographic information from the remote computers.

Millions of consumers regularly use product redemption coupons and realize substantial savings as a result. Significant time is spent clipping and sorting coupons, discarding expired coupons and organizing current coupons for use on shopping trips. Conventional coupon distribution results in significant wasted time due to consumers' attempts to manage their coupon use.

Coupons are delivered to consumers through a variety of media. The primary coupon distribution is via pull-out sections in newspapers, which are known as free standing inserts (FSIs). This accounts for just over 80% of coupons used. Other methods of distribution include in-store shelf coupon dispensers, check-out coupons (generally issued based on the customer's current purchase), register receipt coupons, in-product coupons, instant peel-off on-product coupons and direct mail coupons. In addition to manufacturers' coupons, consumers use retail store coupons, such as those issued by large retail chains on a weekly basis.

Some consumers use coupons on a fairly random basis. These consumers tend not to keep coupons for future use, but will review coupons available just prior to shopping to see if any of them cover products they plan to buy or if there are any for new or improved products of interest.

More organized coupon users maintain some form of storage system to keep coupons for future use. These consumers often clip coupons regularly from all available sources, and often have coupon filing systems by product category. They will also review their coupons regularly, discarding unused coupons which have expired.

For most consumers, attempts to maintain an organized coupon file often fails. The "bother" and time required to maintain organized coupon files often results in neglect of those files, even though diligent shoppers know that a consistent significant savings is easily achievable using coupons.

The notion of issuing product redemption coupons to consumers was an innovative idea to entice consumers to try new products in the hope that, after the first try of a new product at a coupon discounted price, they would become repeat customers at the regular price. Coupons are effective tools used in launching new products. Manufacturers also find coupons can shore up flagging sales, help reduce excess inventory or win back consumers' brand loyalty, and so coupons for existing products have become customary, so much so that today's consumers have come to expect coupons. Often, coupon price incentives significantly reduce brand loyalty, and manufacturers must issue more coupons than desired to maintain market share. Market share has also been impacted by an increase in the number and variety of competing "no-name" store brands. The competitive nature of the retail industry does not allow manufacturers to reduce coupon distribution, and in some market sectors, such as cereals, the majority of purchases are made with coupons.

Consumers are most familiar with FSIs as a source for manufacturers' coupons. In 1993, the coupon redemption rate from FSIs was 2.3%, and gradually declining. The primary factors which keep the redemption rate low include consumers not needing or wanting the product advertised, consumers not bothering to clip coupons, losing clipped coupons or leaving them behind on shopping trips, lack of 100% distribution of newspapers, overcouponing within specific areas, and unavailability of new products when the coupon is issued.

Free standing inserts currently represents the largest share of the coupon distribution industry, roughly 80.2%. On average, manufacturers who use FSIs for coupon distribution, spend approximately $.92 per coupon redeemed, which is the lowest redeemed cost per coupon redeemed when compared with other current coupon distribution methods. FSI coupon distribution results in high costs per coupon because of the shear complexity of and volume of materials involved in coupon distribution and redemption. Charges to manufacturers by FSI producers cover set-up, paper, printing, freight, newspaper insertion costs, sales and marketing, overhead and profit.

Direct mail coupons accounted for approximately 4.4% of coupon distribution in 1992. Direct mail coupons may be issued as part of a nationwide campaign or a regional campaign, may be cooperative or solo, and may be mass, zip-code/lifestyle/lifestage segmented or household targeted. Regional direct mail coupons are more common, and are usually limited to marketing the products and/or services of local vendors. Companies who practice database marketing make use of direct mail campaigns for delivering targeted incentives.

Run-of-Press ("ROP") Coupons accounted for 4.1% of the coupons distributed in 1992. These coupons consist primarily of stand alone newspaper advertisements with clip-out coupons. Often these advertisements are specifically placed to coincide with a relevant feature article. This form or coupon is marketed directly or through third party coupon issuers who have the nationwide newspaper distribution channels through which to place ROP coupons.

In/on pack coupons accounted for 3.5% of the coupons distributed in 1992. On pack coupons consist of an attached coupon which is removed and redeemed at the cash register at the time of purchase. In pack coupons are found within the product and act as an incentive to customers to repurchase the same product. It is estimated that the actual cost per in/on pack coupon redeemed is significantly less than that associated with other coupon distribution methods. Most on-pack coupons are redeemed as customers pay for their purchases. However, this also means that all items are sold at the coupon discount, lowering a manufacturer's overall revenues per product more so than other types of coupons.

In 1992, various other coupon distribution methods represented 5% of coupons distributed. Two important coupon distribution methods in this category include shelf distribution and custom prepared coupon distribution. Thousands of stores use coupon dispensers which are attached to a product's shelf. Customers can pull out one coupon from the dispenser for the product advertised. This method of coupon distribution is designed to reach the consumer at the point of making a purchase decision, and has a redemption rate of approximately 18%.

Check-out coupons are printed at the check-out by a printer installed at the cash register. A computer analyzes the purchases made by each customer, and can print competitor's coupons or other coupons related to items in the current

purchase. This system has a coupon redemption rate of approximately 9%.

The coupon industry expends a great deal of resources in market research, printing, issuing, distributing and redeeming coupons, yet produces an extremely low redemption rate. This is attributed to the haphazard systems used by most consumers of manually clipping, filing, sorting through, and ultimately using the coupons, and to the high cost associated with targeting coupons to each consumer.

Attempts have been made in the prior art to meet the needs of the coupon industry and the consumer. U.S. Pat. No. 5,249,044 to Von Kohorn describes a television-based coupon reception system wherein coupon information is transmitted along with program information to a broadcast audience. A member of the audience can generate a coupon for subsequent redemption at a store.

U.S. Pat. Nos. 5,285,278 and 5,287,181 to Holman also teach a television-based coupon reception system. Coupon information is encoded into a television broadcast signal and decoded at the consumer's television by circuitry similar to that used for closed-caption broadcast decoding. The extracted coupon information is then recorded on a medium such as a magnetic stripe card or a microprocessor-based "smart card". The user can then present the medium at the supermarket in order to automatically receive the appropriate discount

U.S. Pat. No. 5,185,695 to Pruchniki discloses an electronic paperless coupon system which obviates the need for a paper coupon in order to save printing, processing and clearinghouse costs as well as eliminating counterfeiting. Coupon redemption information is transmitted from a central system to local retailers, where coupon signs are placed near the related item. The discount is automatically applied at the point of sale without the need for the consumer to present a paper coupon.

U.S. Pat. No. 5,176,224 to Spector teaches a closed-loop coupon system which consists of a kiosk type printer station located at a retail store. The kiosk is linked to the manufacturers in order to obtain specific coupon information. The consumer selects the desired coupon at the kiosk, and the coupon is printed and dispensed. The consumer presents the coupon at the register, where the discount is applied and the discount transaction data is transmitted back to the manufacturer.

U.S. Pat. No. 4,674,041 to Lemon et al. discloses a system with remotely located coupon printing stations capable of limiting the number of coupons printed in a given time period. Each coupon station has a display for indicating the available coupons, selection means to allow the consumer to choose the desired coupon, and a coupon printer. The system disables display of a particular coupon when a preselected coupon limit has been reached.

While these aforementioned prior art attempts at providing couponing systems are useful in their own right, they fail to provide for a secure and interactive coupon generation system in which the user can request, select, store, manipulate and print coupons as desired, in which user-specific information such as demographic data and data representative of those coupons so requested, selected, printed and actually used may be provided back to the coupon issuer and distributor for more efficient coupon targeting in subsequent coupon issuance and distribution.

It is therefore an object of the present invention to provide such a coupon distribution system which overcomes the aforementioned problems and shortcomings of the prior art.

It is an object of the present invention to provide an electronic coupon distribution system which can be easily accessed by masses of consumers by using a readily available personal computer rather than needing to purchase specialpurpose equipment.

It is a further object of the present invention to provide such an electronic coupon distribution system which allows a user to request transmission of coupon data and select, store, manipulate and print coupons from such coupon data.

It is a further object of the present invention to provide such an electronic coupon distribution system which allows the coupon issuing companies to access valuable information directly from the consumer without requiring specific and additional action by the consumer but rather by using the information from the user's personal computer regarding the consumer's selection, printing and actual redemption of coupons, as well as responses to demographic queries posed to the users.

It is a further object of the present invention to provide such an electronic coupon distribution system which allows a consumer to generate shopping lists associated with coupons selected and printed, in order to simplify the shopping process and promote the use of product coupons.

It is a further object of the present invention to provide such an electronic coupon distribution system which allows for automatic deletion of expired coupons in the user's computer database and the modification of redemption amounts of coupons in the user's database, both of which can be transparent to the user.

It is a still further object of the present invention to provide a secure coupon system which generates unique coupons with user-identifying data and allows the printing of a coupon only once, thus eliminating the possibility of fraud by both the consumer and the retailer.

It is a still further object of the invention to provide an efficient, low cost, zip-code/lifestyle/lifestage or household targeted coupon distribution system to tailor the incentives to each user.

SUMMARY OF THE INVENTION

In accordance with these and other objects, provided is a system for distributing and generating at a remote site product redemption coupons comprising a centrally located repository of electronically stored product redemption coupon data, transmission means operatively associated with said centrally located repository for providing data communication between said repository and a plurality of remote user computers, and a remote user computer operatively associated with said transmission means. The remote user computer in the present invention comprises interface means for providing user interaction with the centrally located repository, a memory, and a coupon data management program. The coupon data management program is implemented by the computer for requesting coupon data from the centrally located repository, for storing in the memory coupon data transmitted from the centrally located repository, and for generating printable coupon data from the stored coupon data. The remote user computer also comprises a coupon output buffer operatively associated with the data management program for storing the printable coupon data generated by said coupon data management program.

The present invention additionally comprises a printer for printing product redemption coupons from the printable coupon data stored in the coupon output buffer. Alternatively, the system may enable the user to transmit electronically the printable coupon data from the coupon output buffer to the centrally located repository or directly to the retailer for electronic coupon redemption.

As a result of the present invention, a user of the remote computer is able to request coupon data to be transmitted from said centrally located repository, and the user is able to instruct his computer to print or electronically transfer product redemption coupons generated from the transmitted coupon data. In particular, the user's computer assembles product redemption coupons for printing by using two data components; (1) fixed coupon data which is transmitted to the user's computer during an initialization or "sign-up" process and which remains stored on the user's computer for subsequent coupon generation, and (2) variable coupon data which is transmitted to the user's computer whenever he requests coupon data from the central repository.

Additionally, the coupon data management program of the present invention operates in conjunction with the remote computer to allow the user to select and store certain desired coupon data from the coupon data transmitted by the centrally located repository and print coupons as selected. The coupon data management program also allows the user to generate a shopping list which is correlated to the coupons printed for subsequent redemption.

In the present invention, the data exchange capabilities provided by the transmission medium between the remote computer and the central repository allow the automatic transfer of valuable information from the remote computer to the central repository and, ultimately, to the coupon distributing and issuing centers. Information related to the coupons selected and printed can be supplied to the coupon distributors and issuers, which can also use information obtained from the various retail stores as to which coupons were actually redeemed in order to more intelligently market subsequent coupons and target coupon issuance in a more cost effective manner.

The data exchange capabilities are further advantageously utilized in the present invention to allow, via the central repository, the updating of coupon data stored in the user's remote computer without required interaction from the user if the user is online. In particular, the central repository can delete expired coupons from the remote computer's coupon database and can vary the amount of redemption value of a non-expired coupon if so desired. The capability for the updating and deleting of coupons within a user's computer is programmed in the user's computer such that no further interaction with the central repository is required for such coupons to be deleted or updated.

Finally, the present invention provides for secure coupon generation by allowing the printing of a particular coupon only once. Further, and quite importantly, the present invention provides for the printing on each coupon of certain user-specific data, thus making each coupon printed unique. Thus, two different users with access to printing a particular coupon will each print coupons with the same product, discount, and expiration date data, yet each will be unique since printed thereon will be user-specific data, preferably in the form of a user-specific bar code. Thus, any attempts to duplicate via photocopying techniques any particular coupon will be discouraged since the coupon redemption center will detect when a particular coupon has been redeemed, will identify the user who redeems a particular coupon, and will disallow any attempt at redemption of a second coupon with identical product and user-specific data.

BRIEF DESCRIPTION OF THE DRAWING

FIG. **1** is a block diagram schematic of the system of the preferred embodiment for the electronic distribution of coupons.

FIG. **2** is a detailed block diagram of the remote personal computer of FIG. **1** configured in accordance with the present invention.

FIG. **3** illustrates exemplary data field formats of the electronic coupon data as implemented in the present invention.

FIGS. **4***a* and **4***b* is a pictorial representations of the online and offline display screens, respectively, which are exhibited to a user in the present invention.

FIG. **5** is a diagram of a printed coupon resulting from the electronic distribution in accordance with the present invention.

FIG. **6** is a schematic block diagram illustrating the main functional areas serviced by the online service provider of the preferred embodiment system.

FIG. **7** is a diagram of the use of an external cue to prompt access by the user of the system.

FIG. **8** is a block diagram of an alternative embodiment of the present invention in which data is transmitted between the central repository and personal computer by satellite.

FIG. **9** is a flowchart of the operation of the present invention.

FIG. **10** is a schematic block diagram of the implementation of the coupon data package generation.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the system block diagram of FIG. **1** and the flowchart of FIG. **9**, the electronic coupon distribution system of the preferred embodiment comprises a central located repository of electronically stored coupon data, which in the preferred embodiment is an online service provider **2**. The term online service provider refers herein to any computer-based information service provider which is accessible by a remote personal computer user via a communications data link such as the public switched telephone network (PSTN) or the like, such as PRODIGY, COMPUSERVE, or AMERICA ONLINE. In addition, it is contemplated that the electronic coupon data distribution may be carried out by connection to any readily accessible Internet site such as the World Wide Web. Referring to FIG. **8**, it is further contemplated that electronic coupon distribution may also be carried out via digital satellite communication links, thus avoiding the need for hardwired (i.e. PSTN) connectivity between the repository and the remote user computer. Thus, any centrally located computer system which is accessible to the public by any transmission means is contemplated as being within the scope of this invention. As used herein, the term "user" denotes an individual user or a household of users linked through one account.

The online service provider has stored in its database **40** (see FIGS. **6** and **10**) various packages of electronic coupon data, the content of which will be further described below. The electronic coupon data is provided, by a coupon distributor **16** or coupon issuer **14**, by any of various means such as electronic transmission via the PSTN or satellite data exchange. The online service provider also stores in a demographic data file **42** user-specific data, including coupons selected data, coupons deleted data, coupons printed data and user demographics, as will be described below, for subsequent transmission to a coupon distributor **16**. The coupon distributor **16** will utilize the user-specific data and coupon redemption data in compiling subsequent coupon packages targeted specifically at certain user categories.

The online service provider **2** is connected with the data link **4** and is thus accessible by any remote personal com-

puter 6 having a data communications interface 20 such as a modem (see FIG. 2). The online service provider communicates with the personal computer 6 in order to transmit requested coupon data, and also in order to receive coupon requests and the user-specific data mentioned above.

The remote personal computer 6 has connected thereto a printer 8, which may be any type of computer printer capable of printing graphics. The printer 8 is instructed by the coupon data management routines 32 stored in the computer 6 in order to print printed coupons 18, as will be described in detail below.

The printed coupons 18 are used in the normal fashion by a consumer when shopping at a desired retail store 10. That is, the coupons 18 are presented to a product checkout station 11 along with the associated products for purchase, and the discount amount shown on the coupon 18 is credited to the consumer at the point of sale. The redeemed coupons 18 are transmitted to a coupon redemption center 13 where they are electronically read, and user-specific data is stored in a coupon redemption database 12.

In addition to the usual coupon information found in prior art coupons (e.g. redemption amount, company and product name, expiration date, etc.), the coupons 18 of the preferred embodiment of the present invention contain user-specific data in the form of a unique user bar code 90, as shown graphically in FIG. 5. The user bar code 90 is encoded with user-specific information such as the user name and/or other unique identification criteria such as a social security number or online service address. This information renders each printed coupon 18 unique, since an otherwise similar coupon presented by a different consumer will comprise a different user bar code 90. The use of a unique coupon 18 is but one aspect of the secure nature of the present invention as will be described in detail below.

The coupon redemption center 13 receives from a number of stores 10 the coupons redeemed, verifies the value of the redeemed coupons, determines the identification of users who redeemed the coupons, and distributes the information read from the coupons 18 to the individual coupon issuer 14 and to the coupon distributor 16. In particular, information regarding the redemption amount and the redeeming store 10 is forwarded to the particular coupon issuer 14 named on the coupon 18, which then credits the redeeming store 10 with the total amount of discounts given. Of particular value in the present invention is the distribution of user-specific data to the coupon distribution center 16, which collates such user information and performs marketing analysis via a marketing analysis means 17 in order to compile subsequent coupon packages targeted specifically at certain user categories. The coupon distribution center 16 utilizes the user-specific redemption data along with user-specific demographic data supplied by the online service provider 2 in order to compile subsequent coupon data download packages for use by consumers once again.

An online display screen 60 is shown in FIG. 4*a*, which is provided to a user on a display 24 of his remote computer 6 whenever he is in online communication with the service provider 2. The online display screen 60 comprises a join service function button 62, a download coupons function button 64, a help function button 66, and an online communications button 68. When the user desires to initially register for the electronic coupon distribution service, he selects the join service function button 62 which initiates a dialog with the online service provider 2 in order to request certain demographic data from the user which will be used to target specific coupon data packages for subsequent downloading. The user has the option of providing the requested information if he so desires. In addition, an offline coupon management program is transmitted electronically to the user's computer 6 for subsequent coupon data requesting, downloading and processing.

FIG. 6 illustrates the functional aspects of the online service provider 2 in the preferred embodiment of the present invention. The main features provided by the online service provider 2 are the coupon packages file 40, the demographic data file 42, the online communications server 44, and the help file 46. Each of the aforementioned features communicates with the user via the data communications interface 48.

The coupon packages file 40 comprises electronic coupon data and other types of advertising materials supplied by the various coupon issuers 14 through the coupon distributor 16. Individual users' coupon data packages are drawn from this file based on demographic data and historic buying profiles stored in the demographic data file 42. Advertisements may consist of graphics, text, recipes, competitions or other inducements or a combination thereof.

After joining the electronic coupon service, the user can order a package of electronic coupons from the online service provider 2 by selecting the download coupon function button 64. When this button is selected, commands are generated and transmitted via the data communications interface 20, through the data link 4, and up to the coupon package file 40 resident at the online service provider 2. The requested coupon data package and associated advertising materials are transmitted by the online service provider 2 to the personal computer 6, where it is stored in the downloaded coupon data file 30*a* in the coupon database 30.

The demographic data file 42 contains data representative of demographic inquiries presented to a user at the time that the user requests a download of coupon data from the coupon package data file 40, as well as data representative of the users' responses thereto.

The online communication server 44 is accessed by the user selecting the online communication button 68. The online communication server is a bulletin board type file where users can post messages to a coupon distributor or issuer regarding any issue of interest. The message data is transferred to the appropriate destination by the online service provider 2, which also collects the responses thereto and posts them on the online communication server 44, thus allowing the user to fetch the response when logged on at a subsequent time.

By selecting the help function button 66, the help file 46 is used as a means for providing standard help and other useful information to a user.

Referring to FIG. 2, the remote personal computer 6 of the preferred embodiment comprises a data communications interface 20 (such as a modem) for connecting the computer to the data link 4 (such as a PSTN), a user input device 22 such as a keyboard and mouse or other type pointing device, a display 24, and a processor 26, all of which are common to personal computers and are well known in the art. The computer 6 also comprises an output buffer 28, which typically resides in random access memory. The computer 6 is configured to operate in accordance with the present invention via a coupon database file 30 and an offline coupon data management routine file 32 loaded onto a fixed memory such as a hard disk drive. All of these internal components and files are connected to a data bus 21 for communication therebetween in accordance with techniques well known in the art.

The coupon database file **30** is segmented into various sections as shown in the memory map of FIG. **2**. The coupon database of the preferred embodiment comprises downloaded coupon data **30***a*, which is the entire coupon data package downloaded from the online service provider **2**; selected coupon data **30***b*, which is a subset of the downloaded data and represents specific coupons electronically "clipped" and stored therein; sorted coupon data **30***c*, which is selected coupon data sorted in accordance with a particular set of criteria (e.g. all fruits together, then all dairy products, etc.); fixed coupon parameters and user-specific data **30***d*, which is certain unvarying data used in printing the coupons as will be described in detail below; and store-specific data **30***e*, which is information regarding the product arrangement in a certain retail store **10** which will allow the user to prepare a shopping list tailored to the particular store.

The offline coupon data management routines **32** are executed by the processor **26** in conjunction with the coupon database **30** in order to request, obtain, store, select, sort, and print coupons as desired. The offline coupon data management routines **32** are executed by selecting a desired function button **52**, **54**, **56**, or **58** as shown in the offline display screen **50** in FIG. **4***b*. The offline display screen **50** is shown on the display **24** when the user runs the coupon data management program on his or her personal computer **6**. The offline coupon data management routines **32** are executed in an offline fashion; that is, the user does not need to first be in online communication with the service provider **2**. If a particular function button **52**, **54**, **56**, or **58** chosen by the user initiates a routine **32** which requires online communication, that routine will initiate, control and terminate an online session with the service provider **2** automatically.

The request coupon download routine **32***a* is executed when the user desires to order a package of electronic coupons from the online service provider **2**. This routine is called when the user selects the download coupon function button **54**. When this routine is called, commands generated by this routine are transmitted via the data communications interface **20**, through the data link **4**, and up to the coupon package file **40** resident at the online service provider **2**. The requested coupon data package and associated advertising materials are transmitted by the online service provider **2** to the personal computer **6**, where it is stored in the downloaded coupon data file **30***a* in the coupon database **30**.

Prior to downloading the requested coupon data package to the computer **6**, the demographic data file **42** provides certain demographic queries to the user in order to obtain valuable information for use in marketing analysis and subsequent coupon package generation. The users' responses to the queries are transmitted to the online service provider **2** and stored in the demographic data file **42** for subsequent processing.

The user may select the view function button **52** in order to view the coupons and advertisements previously downloaded. This selection will call the view coupons routine **32***b*, which will access the downloaded coupon data file **30***a* and present it to the user via the display **24**.

While viewing the coupons and advertisement, the user may select a desired coupon for further sorting, storage, printing or deleting and/or shopping list generation by selecting or "clipping" the coupon with the mouse or keyboard input **22**. Coupons are clipped by scrolling through related advertisements. In order to avoid the need for clipping, the user may print or delete a desired coupon. The coupons selected in this function are stored for further processing in the selected coupon data file **30***b*.

The coupon file function button **56** enables the user to perform several operations on his selected coupon data file **30***b*. The user may view the coupons selected (from the selected coupon data file **30***b*), and may choose any of them for printing. Further, a sortation option is provided which logically sorts, by category and subcategory, the coupons stored. Thus, the management program automatically places all the dairy coupons together, and may also place all the milk coupons together within the dairy category. This is carried out by the coupon sortation routine **32***c*, and is akin to the manual filing system used in the prior art and will aid the user in viewing his selected but unprinted coupons in an efficient manner. The sorted coupons may be loaded into the sorted coupon data file **30***c* for subsequent viewing and printing. The user may optionally sort the coupons manually by his own classification.

The shopping list function button **58** calls the shopping list generation routine **32***g* when selected by the user. This routine will allow the user to generate a list from a menu presented on the screen whichever items the user desires to purchase, and the user can store and/or print this list as desired. The items on the list are compared against coupon data stored in the coupon database **30** and the user is informed of their existence. The user may then print out those coupons along with the shopping list. Alternatively, the user may select certain coupons for printing, and the item associated therewith is automatically placed on the shopping list. Thus, in either fashion, the user's shopping list generation and coupon "clipping" tasks are conveniently merged in a timesaving manner.

The shopping list generation routine **32***g* may also advantageously use data stored in the store-specific data file **30***e* in order to prepare a shopping list tailored to an individual retail store. Thus, data regarding the layout of the store, the food items available at the store, and the like, are used by the list generation routine **32***g* in order to organize the purchase items accordingly. The data stored in the store-specific data file **30***e* may be obtained by any of several methods; by downloading from the online service provider **2**, by inputting via a floppy disk memory supplied by the store, or even manually input by the user. Data for different stores can be kept in the file **30***e* and the user simply selects the store he intends on using at that particular time. The user may select a standard pre-programmed shopping list, his last generated shopping list, or a blank shopping list from which to commence his shopping list preparation.

The coupon upload routine **32***cc* is called automatically and without user request whenever the user requests a coupon download package from the online service provider **2**. A record is kept by the upload routine **32***cc* indicative of each coupon selected by the user and each coupon printed by the user. This record is sent to the demographic data file **42** in the online service provider **2**, and is used for marketing analysis along with data regarding which coupons were actually redeemed, which information is obtained from the manufacturers' redemption agency or center.

Coupons are printed by the printable coupon data generation routine **32***d*, which is invoked by a user when he selects a print command from the coupon file function **56**. This routine obtains data from two sources in the coupon database **30**: the fixed coupon parameters and user-specific data file **30***d*, and the variable coupon data associated with the particular coupon selected for printing.

Referring to FIG. **3**, the data format of the fixed coupon parameters and user-specific data are set forth and include predefined border graphics which are the same for every

coupon printed, redemption instructions, and a user identification bar code number. The user identification bar code number is a unique number assigned to that user, e.g. his social security number or online identification number. This number will be encoded by the printable coupon data generation routine **32***d* and printed as a bar code **90** on each coupon **18** printed for the particular user. This information will thus be obtained by the coupon redemption center and provided to the coupon distributor **16** for demographic analysis and the like.

The unique user bar code **90** also renders the electronic coupon system of the present invention secure and virtually fraud-proof. Although a user is able to print out a particular coupon **18** only once (to be described in detail below), the coupon issuer **14** could still be defrauded by a user or retailer who might photocopy a printed coupon numerous times and fraudulently and repeatedly present it for redemption. However, in accordance with the present invention, each coupon printed by a user is unique, and the scanning of a coupon presented for redemption will be stored at the coupon redemption center. Thus, the coupon issuer will know if a particular user has redeemed a particular coupon and thus disallow further redemption of a photocopied coupon bearing the same indicia.

Referring again to FIG. **3**, the data format of the variable coupon parameters are set forth and include the coupon expiration date, the redemption amount, the company and product information, the UPC code, the redemption address, and the description of the coupon offer.

Thus, the printable coupon data generation routine **32***d* combines all this information and generates a record indicative of the unique coupon to be printed. This record is temporarily stored in the output buffer **28**, where it is subsequently sent to the printer **8** for printing. In the alternative, the coupon may be redeemed electronically by sending the coupon data in the output buffer via the data communications interface **20** back to the online service provider **2**. This is especially useful in the "electronic shopping mall" environment now found in many online services. The electronic coupon data could also be routed via the data communications interface **20** to a retail store where the user will be shopping, where the coupon data is held in a buffer pending purchase by the user of the matching product.

As described above, the electronic coupon distribution system of the present invention allows the printing of a particular coupon only once, thus providing for security and guarding against fraudulent redemption. This is accomplished by the coupon deletion routine **32***e*, which is called whenever a coupon is printed and deletes the coupon from the database **30** or renders it unprintable by setting an appropriate flag. In addition, the coupon deletion routine **32***e* allows for automatic deletion of expired coupons by periodically checking the expiration date field of each coupon against a real-time clock found in the computer **6**. Optionally, the user may voluntarily delete any coupon which is expired if the real-time clock is not set to the correct date. For the user's convenience, the online service provider **2** can check the system clock of the user's computer **6** during a communications session and, if the date is incorrect, can ask the user if he would like the date adjusted automatically.

Since the actual expiration date is always printed as part of the coupon, the function of deleting expired coupon data from the user's computer **6** is for the convenience of the user rather than for security purposes.

The system of the present invention also allows for time-sensitive deletion of certain coupon data from the user computer **6** which is unrelated to the expiration date. That is, certain coupon data may be automatically deleted from the user's computer after, e.g., one month, notwithstanding that the coupon, if printed, might have an expiration date in six months. This feature is included to prompt users who know of the time-sensitive autodeletion to promptly print (and use) coupons rather than risk having them deleted from their database.

The coupon management program also can vary the redemption value of any coupon already downloaded to the user's computer **6** without the need for specific user interaction. A coupon variation routine **32***f* is called which aids in this task. Again, any time that a user initiates a download of coupon data, the on-line service provider **2** can update redemption amounts for coupons whose issuers have decided to change the discount amount.

Referring to FIG. **5**, the secure coupon **70** generated and printed in the preferred embodiment is illustrated in detail. The secure coupon **70** comprises the following fixed components taken from the fixed coupon parameter and user-specific data file **30***d*: border graphics **72**, redemption instructions **88**, and user identification bar code **90**. The secure coupon **70** also comprises the following variable components which change for each coupon selected: expiration date **78**, redemption amount **74**, description of the offer **76**, company and/or product information **80**, the item's UPC number **82** and the associated UPC bar code **84**, and the redemption address **86**.

Referring to FIG. **10**, the generation of coupon data packages by the coupon distributor **16** will be explained. The information collected by the coupon distributor **16** from the online service provider **2** regarding the coupon data selected by the user, the coupon data printed by the user, and the requested demographic information is stored in a database **11**. The database **11** also stores information from the coupon redemption center **13** regarding the coupons actually redeemed by the user. The database **11** further stores information regarding all coupons which are made available by the various coupon issuers **14** from which it will generate coupon data packages for subsequent downloading to users.

The information stored in the database **11** is input to the marketing and targeting analysis means **17**, which carries out the function of analyzing the aforementioned information in a manner known in the art to arrive at different coupon packages. That is, it may be determined by the analysis means **17** that users with dogs in their household (which is known by the demographic responses) will get a certain package comprising dog food coupons. It may be further determined that users who select, print and redeem dog food coupons of Brand X will get coupons issued by Brand Y, or will get only low value coupons since they are already dog food coupon users, etc. That is, depending on the marketing and targeting criteria and objectives , the analysis means will generate coupon packages as desired.

Thus, the analysis means generates a number of differing coupon data packages for transmittal to the online service provider **2**. The analysis means also provides specific mapping information which will instruct the online service provider as to which user should be provided with which package(s). For example, user **1** may be mapped to coupon data packages **2** and **3**; user no. **2** to packages **3** and **6**, etc. This mapping function may be carried out by the coupon distributor and provided to the online service provider at regular intervals, e.g. once per week. Thus, the coupon selection, printing and redemption habits may be analyzed over a time period and used to determine the subsequent targeted packages.

In addition to mapping certain coupon data packages to certain users, certain advertising packages may be mapped to the users in a similar fashion.

In accordance with the present invention, the marketing analysis, coupon packaging, and coupon package distribu-

tion functions carried out by the coupon distributor **16** may be carried out at the central data repository, i.e. Internet web site. Further, the coupon redemption and user redemption information processing functions individually carried out by the coupon redemption center **13** and the individual retail stores **10** may be combined into a single redemption center, as shown by the dotted line in FIG. **1**. The physical layout of the functions within the system of the present invention is a matter a practicality and choice of the systems designer and does not impact the utility of the present invention.

In an alternative embodiment of the present invention, the user is provided with a visual or auditory stimulus or cue to suggest an access of the electronic coupon distribution system. Referring to FIG. **7**, a message or logo may be included along with the advertising material normally provided on television, in the newspapers, and the like. This will indicate to a user that he should access the online service provider **2** in order to obtain coupon data related to the advertised product. The availability of the coupon could be time-sensitive, which would provide further incentive to the user to use the system in a prompt and efficient manner. When the radio media is used, a tonal or spoken cue may be included during the advertising message to accomplish the same result.

The amount of redemption discount included with a coupon downloaded to a user may be varied depending on certain demographic information that the system has about the user. For instance, the system may provide a certain value for known users of a brand (which information it will obtain by demographic inquiry or through previous redemptions in the system), and it may provider a higher discount in order to provide an incentive to users of a competitive brand. The ability to vary the value of a discount offer in accordance with such demographic and usage data is a unique advantage offered by the system of the present invention and heretofore unavailable in the prior art.

Referring to FIG. **8**, an alternative means of communication between the online service provider **2** or the coupon distributor **16** and the remote computer **6** is illustrated. A satellite communications apparatus **94** is advantageously used to provide a wireless data link **4**. In this embodiment, the data communications interface **20** is a satellite antenna dish or other transceiver unit which provides operative communication between the remote computer **6** and the satellite **94**. A similar unit is located at the online service provider **2** in order for full wireless data communications to be achieved.

The flowchart of FIG. **9** illustrates the flow of information in the system of the present invention. The information flow illustrated therein has been described in detail in connection with the implementing system.

In a further alternative embodiment of the present invention, the functions of the online service provider **2** are carried out at a site on the Internet. That is, a user may access the coupon data repository by accessing an appropriate Internet site. In this embodiment, the downloaded coupon management routines are encoded with a unique user identification number, which may be for example the user's email Internet address. When the user requests coupon data packages to be transmitted, the user identification number is encrypted and sent to the Internet site along with the request. Appropriate routines are implemented at the Internet site to decrypt the user's identification number and compare it against a list of valid members in order to ensure the validity of the user.

In another alternative embodiment of the present invention, all coupon data management functions are carried out by the online service provider **2** rather than by the offline coupon data management routines **32**. In this case, the speed of access of the online service provider **2** must be high, for example on the order of 28.8 kbps. When high speed communications are used, the need for offline data manipulation is eliminated and all processing can be carried out in an efficient manner while connected to the online provider **2**.

What is claimed is:

1. An online method for a user to view and print at a remote terminal user-specific coupons based on a user profile, the method comprising the steps of:

(a) storing in a storage device at a central location electronic coupon information pertaining to a group of coupons available;

(b) receiving a request from a user for access to stored coupon information;

(c) determining if the user is a registered user, and if the user is not registered:

i) transmitting a prompt to the remote terminal to electronicaly complete a user profile and transmit the user profile to the central location;

ii) receiving and storing a user profile at the central location; and

iii) downloading to the remote terminal a coupon data management software module for managing the printing of coupons, including unique user identification information;

if the user is registered, accessing the stored user profile;

(d) viewing, by a remote terminal, selected ones of the stored coupons, the selected coupons being based on user-specific information, which comprises user profile information and/or user usage history information;

(e) receiving at the central location a request to transmit to the remote terminal at least one coupon data file, the coupon data file corresponding to a user selected coupon, the coupon data file comprising various fields, including a redemption amount field and other fields, the redemption amount field being indicative of a discount provided by the coupon, the redemption amount field and at least one other field being variable in accordance with user-specific information associated with the requesting user; and

(f) transmitting to the remote terminal the at least one coupon data file to enable the user to print a coupon using the coupon data management software module.

2. The method of claim **1** further comprising the step of storing data indicative of coupons printed by the user.

3. The method of claim **1** further comprising the step of sorting coupons by a predetermined classification.

4. The method of claim **1** further comprising the step of generating a shopping list including items corresponding to selected coupons.

5. The method of claim **1** wherein the coupon comprises user-specific data including user identification information.

6. The method of claim **1** wherein the user profile comprises demographic data associated with the user.

7. The method of claim **1** wherein the user profile comprises prior coupon usage data associated with the user.

8. The method of claim **1**, wherein the coupon is generated at the remote terminal from the received coupon data file and a fixed coupon data file previously stored in a memory of the remote terminal, the fixed coupon data file comprising fixed coupon parameters and user-specific data.

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